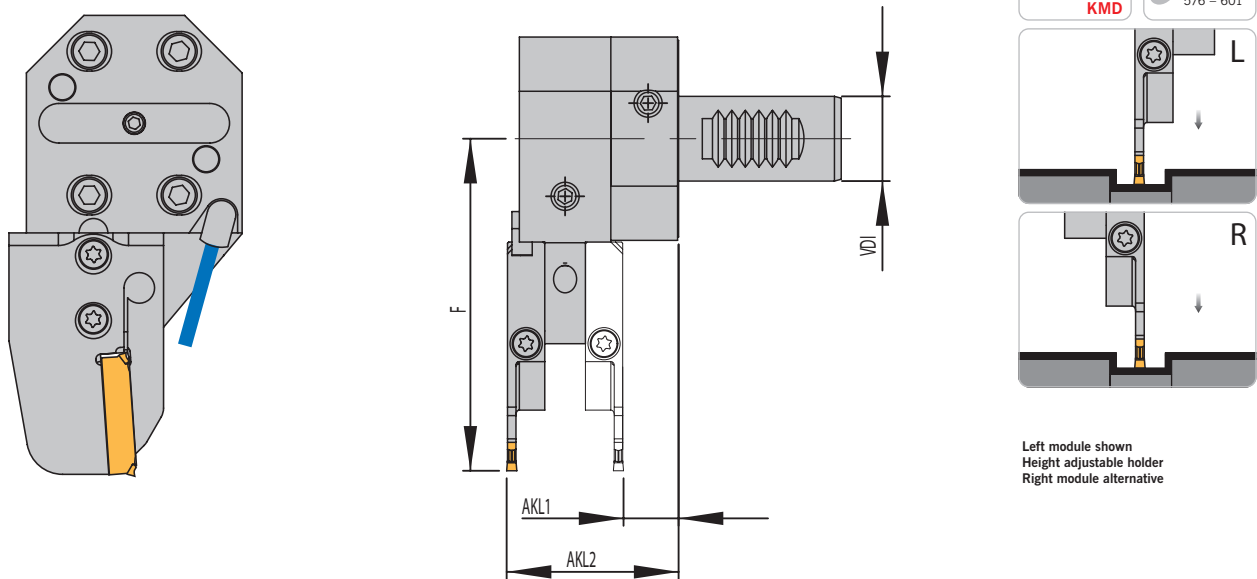




ARNO Direct Mount Adaptors and Modular Blades

PERFECT FIT

VDI25-with internal coolant



Basic holder

Designation	VDI	AKL1	AKL2	Module	PG 43
HVDS 25-1	25	16.3 (0.642")	50.8 (2.000")	MSA-...	●

Module

F = dimension of Modul MSA-...

Designation	VDI25...
	F
MSA-...-32	82.5 (3.248")
MSA-...-44	87.4 (3.445")
MSA-...-52	98.0 (3.858")
MSA-...-65	98.0 (3.858")
MSA-...-80	105.0 (4.154")
MSA-...-105	118.5 (4.665")
MSA-...-125	128.5 (5.059")
MSA-...-140	136.0 (5.354")

Spare Parts

Holder	Screw for module	Key	Coolant jet
HVDS 25-1	AS 0070	T5220-IP	KMD 0825-3E

Spare Parts

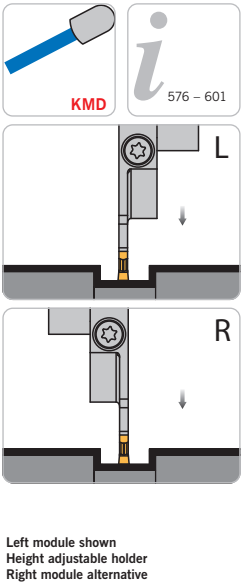
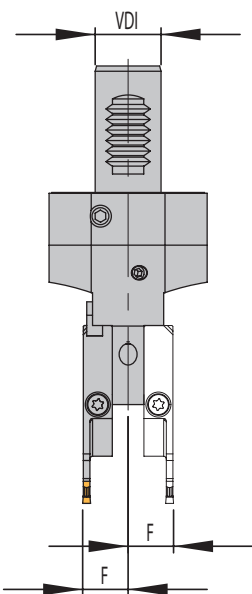
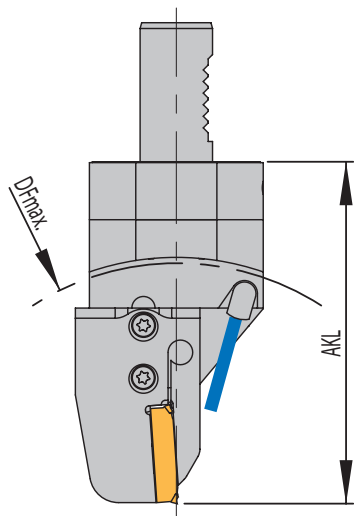
Module	Screw for module	Key
MSA-...	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

Remark: All shown options are available with only one holder.

VDI25-with internal coolant



Basic holder

Designation	VDI	F	Module	PG 43
HVDS 25-7	25	17.3 (0.681") (0.681")	MSA-...	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	VDI25...	
	AKL	DF_{max}
MSA-...-32	102.5 (4.035")	135 (5.315")
MSA-...-44	107.5 (4.232")	145 (5.709")
MSA-...-52	118.0 (4.646")	165 (6.496")
MSA-...-65	118.0 (4.646")	165 (6.496")
MSA-...-80	125.5 (4.941")	180 (7.087")
MSA-...-105	138.5 (5.453")	205 (8.071")
MSA-...-125	148.5 (5.846")	225 (8.858")
MSA-...-140	156.0 (6.142")	235 (9.252")

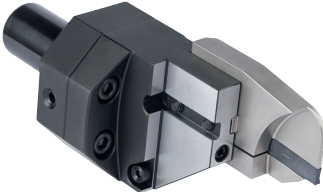
Spare Parts

Holder	Screw for module	Key	Coolant jet
HVDS 25-7	AS 0070	T5220-IP	KMD 0825-3E

Spare Parts

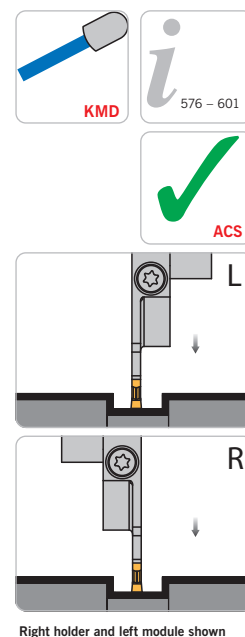
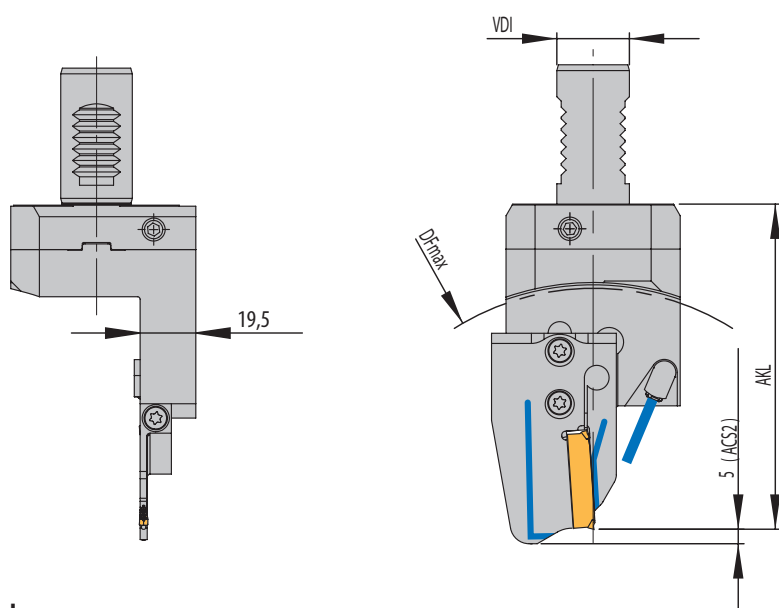
Module	Screw for module	Key
MSA-...	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

Remark: All shown options are available with only one holder.

VDI25-with internal coolant and ACS



Right holder and left module shown

Basic holder

Designation	VDI	F1	F2	Module	PG 43
HVDI 25L-7-15 (0.591")-MSA-SR	25	15 (0.591") (0.591")	-	MSA-SR...-ACS.	●
HVDI 25L-7-35-MSA-SL	25	-	35 (1.378")	MSA-SL...-ACS.	●
HVDI 25R-7-15 (0.591")-MSA-SL	25	15 (0.591") (0.591")	-	MSA-SL...-ACS.	●
HVDI 25R-7-35-MSA-SR	25	-	35 (1.378")	MSA-SR...-ACS.	●
HVDI 25L-7-15 (0.591")-MSA-SR-122	25	15 (0.591") (0.591")	-	MSA-SR...-ACS.	●
HVDI 25L-7-35-MSA-SL-122	25	-	35 (1.378")	MSA-SL...-ACS.	●
HVDI 25R-7-15 (0.591")-MSA-SL-122	25	15 (0.591") (0.591")	-	MSA-SL...-ACS.	●
HVDI 25R-7-35-MSA-SR-122	25	-	35 (1.378")	MSA-SR...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	VDI25...		VDI25...-122	
	AKL	DF_{max}	AKL	DF_{max}
MSA-...-32-ACS.	96.5 (3.799")	135 (5.315")	106.5 (4.193")	155 (6.102")
MSA-...-44-ACS.	101.5 (3.996")	145 (5.709")	111.5 (4.390")	165 (6.496")
MSA-...-52-ACS.	112.0 (4.409")	165 (6.496")	122.0 (4.803")	185 (7.283")
MSA-...-65-ACS.	112.0 (4.409")	165 (6.496")	122.0 (4.803")	185 (7.283")
MSA-...-69-ACS.	114.0 (4.488")	170 (6.693")	124.0 (4.882")	190 (7.480")
MSA-...-80-ACS.	119.5 (4.705")	180 (7.087")	129.5 (5.098")	200 (7.874")
MSA-...-90-ACS.	124.5 (4.902")	190 (7.480")	134.5 (5.295")	210 (8.268")
MSA-...-105-ACS.	132.0 (5.197")	205 (8.071")	142.0 (5.591")	225 (8.858")

Spare Parts

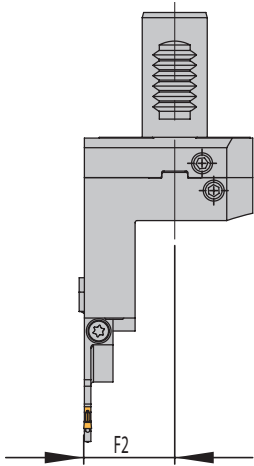
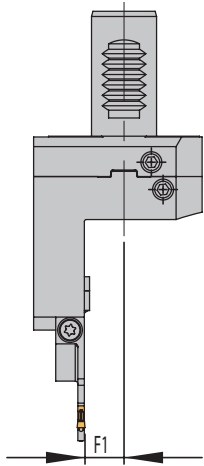
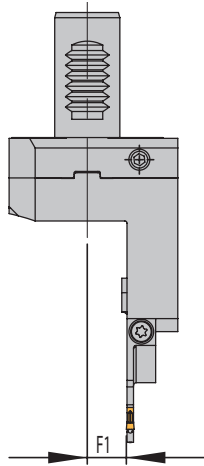
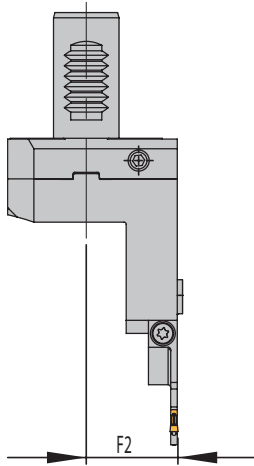
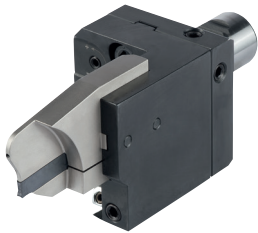
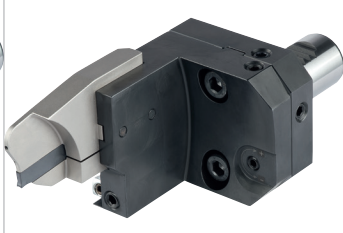
Holder	Screw for module	Key	O-ring	Coolant jet	Locking pin
HVDI 25.-	AS 0070	T5220-IP	OR 23,6X1,8-NBR80*	KMD 0820-4BJ	ZS0820G

* Not included in the delivery.

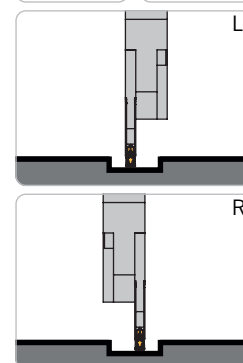
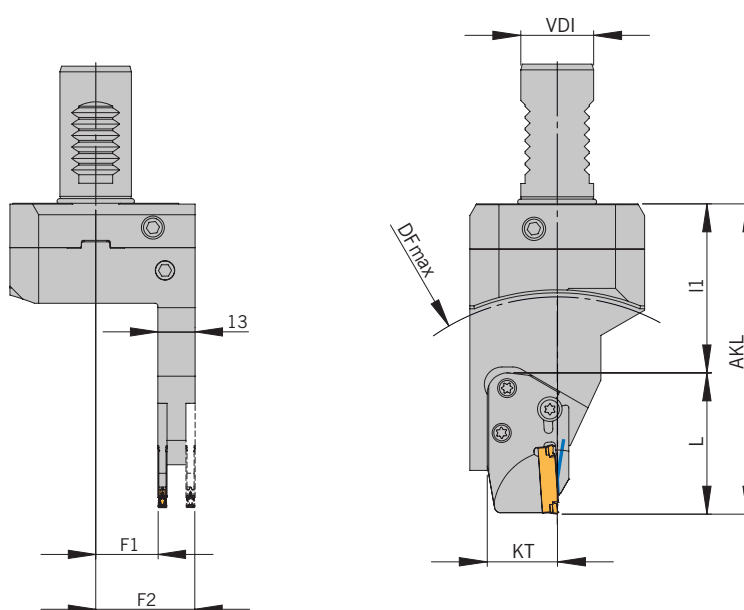
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder		Right-hand holder	
HVDI 25L-7-35-MSA-SL	HVDI 25L-7-35-MSA-SR	HVDI 25R-7-15-MSA-SL	HVDI 25R 7-15-MSA-SR
HVDI 25L-735-MSA-SL-122	HVDI 25L-7-35-MSA-SR-122	HVDI 25R-7-15-MSA-SL-122	HVDI 25R 7-15-MSA-SR-122
			
Left module shown	Right module shown	Left module shown	Right module shown
			
Normal assembly	Normal assembly	Normal assembly	Normal assembly
			
Upside down assembly	Upside down assembly	Upside down assembly	Upside down assembly

VDI25 / MSA-I-with internal coolant and ACS



Right holder and left module shown
Height adjustable holder
Right module alternative

Basic holder

Designation	VDI	L1	F1	F2	KT	Module	PG 43
HVDI 25R-7-22-D-MSA-I-ACS	25 (.984)	58 (2.283)	23.4 (.921)	33.2 (1.307)	24 (.945)	MSA-I-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and $AKL = L$ (length of module) + $L1$

Designation	VDI25...	
	AKL	DF_{max}
MSA-I.-L37-...-ACS.	95.0 (3.740")	125 (4.921")
MSA-I.-L41-...-ACS.	99.0 (3.898")	130 (5.118")
MSA-I.-L43,5-...-ACS.	101.5 (3.996")	135 (5.315")
MSA-I.-L44-...-ACS.	102.0 (4.106")	135 (5.315")
MSA-I.-L45,5-...-ACS.	103.5 (4.075")	140 (5.512")
MSA-I.-L48,5-...-ACS.	106.5 (4.193")	145 (5.709")

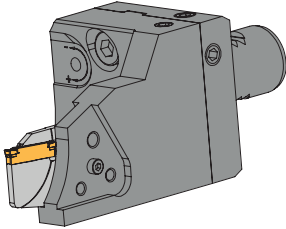
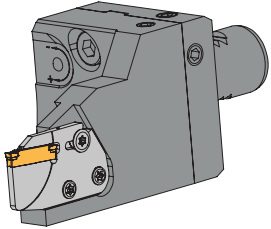
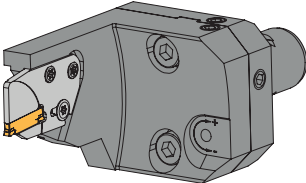
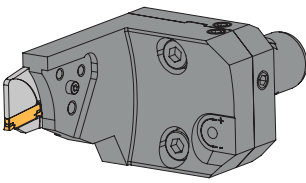
Spare Parts

Holder	Cylinder head screw	O-ring	O-ring 2
HVDI 25R-...	DIN912-M3X3-A2	OR 8X1-NBR70	OR 23,6X1,8-NBR70

Spare Parts

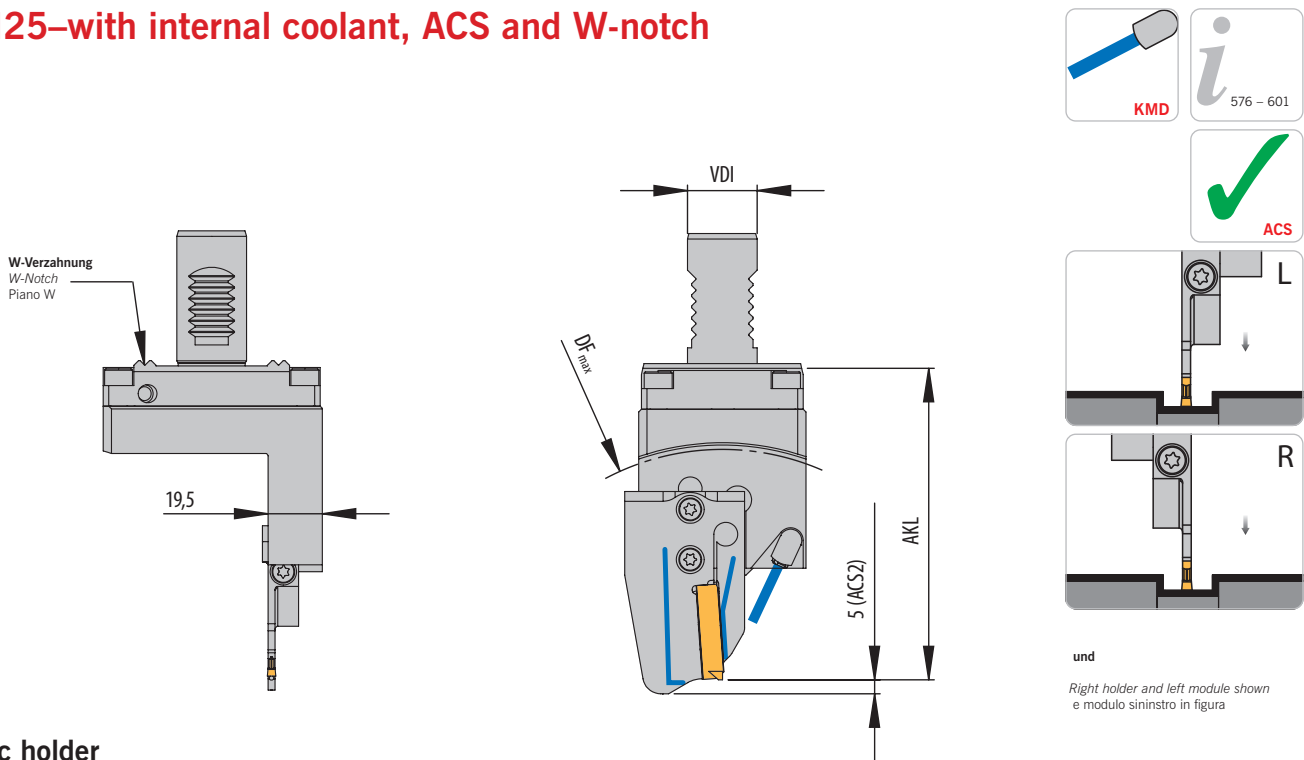
Module	Cylinder head screw	Key
MSA-I.-...-ACS.	2 x AS 0049/1 x AS 0050*	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

Remark: All shown options are available with only one holder.

VDI25-with internal coolant, ACS and W-notch



Basic holder

Designation	VDI	F1	Module	PG 43
HVDI 25WL-7-20-MSA-SR	25	20 (0.787")	MSA-SR-...ACS.	●
HVDI 25WR-7-20-MSA-SL	25	20 (0.787")	MSA-SL-...ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	VDI25W	
	AKL	DF _{max}
MSA-...-32-ACS.	96.5 (3.799")	135 (5.315")
MSA-...-44-ACS.	101.5 (3.996")	145 (5.709")
MSA-...-52-ACS.	112.0 (4.409")	165 (6.496")
MSA-...-65-ACS.	112.0 (4.409")	165 (6.496")
MSA-...-69-ACS.	114.0 (4.488")	170 (6.693")
MSA-...-80-ACS.	119.5 (4.705")	180 (7.087")
MSA-...-90-ACS.	124.5 (4.902")	190 (7.480")
MSA-...-105-ACS.	132.0 (5.197")	205 (8.071")

Spare Parts

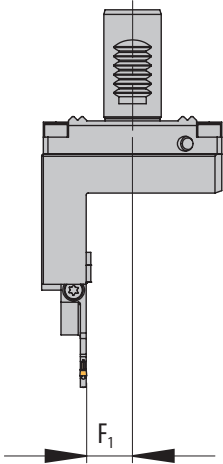
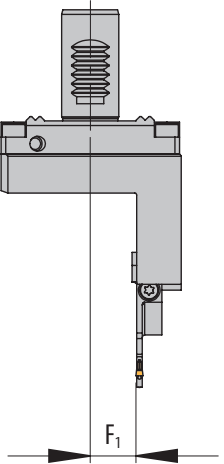
Holder	Screw for module	Key	O-ring	Coolant jet	Locking pin
HVDI 25W.-	AS 0070	T5220-IP	OR 23,6X1,8-NBR80*	KMD 0820-4BJ	ZS0820G

* Not included in the delivery.

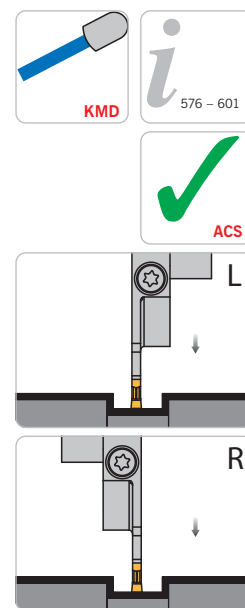
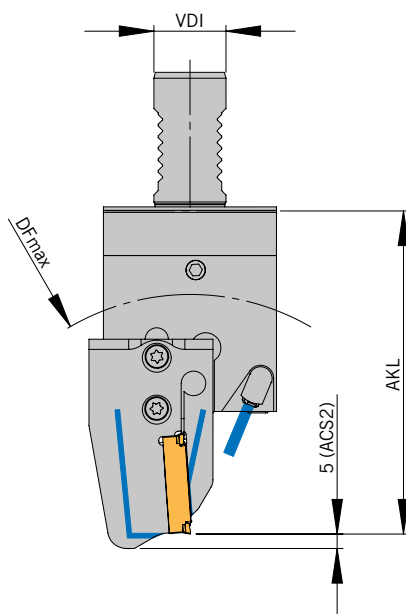
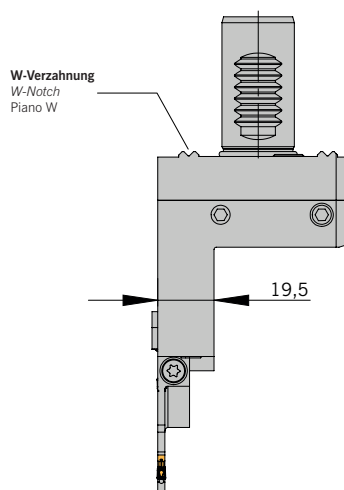
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder	Right-hand holder
HVDI 25WL-7-20-MSA-SR	HVDI 25WR-7-20-MSA-SL
	
Right module shown	Left module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

VDI25-with internal coolant, ACS and W-notch



Left holder and left module show
Height adjustable holder

Basic holder

Designation	VDI	F2	Module	PG 43
HVDI 25WL-7-35-MSA-SL	25	35 (1.378")	MSA-SL...-ACS.	●
HVDI 25WR-7-35-MSA-SR	25	35 (1.378")	MSA-SR...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	VDI25W	
	AKL	DF _{max}
MSA-...-32-ACS.	96.5 (3.799")	135 (5.315")
MSA-...-44-ACS.	101.5 (3.996")	145 (5.709")
MSA-...-52-ACS.	112.0 (4.409")	165 (6.496")
MSA-...-65-ACS.	112.0 (4.409")	165 (6.496")
MSA-...-69-ACS.	114.0 (4.488")	170 (6.693")
MSA-...-80-ACS.	119.5 (4.705")	180 (7.087")
MSA-...-90-ACS.	124.5 (4.902")	190 (7.480")
MSA-...-105-ACS.	132.0 (5.197")	205 (8.071")

Spare Parts

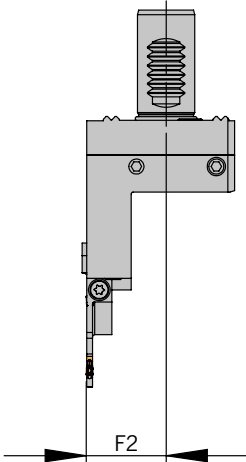
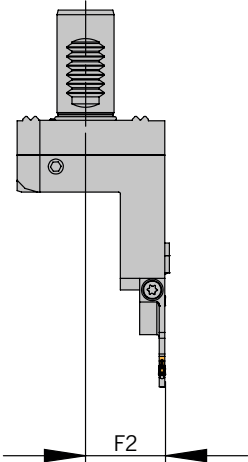
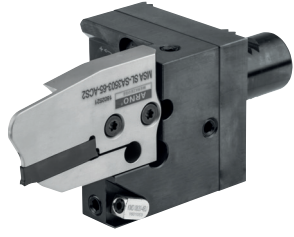
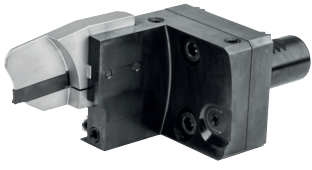
Holder	Screw for module	Key	O-ring	Coolant jet	Locking pin
HVDI 25W.-	AS 0070	T5220-IP	OR 23,6X1,8-NBR80*	KMD 0820-4BJ	ZS0820G

* Not included in the delivery.

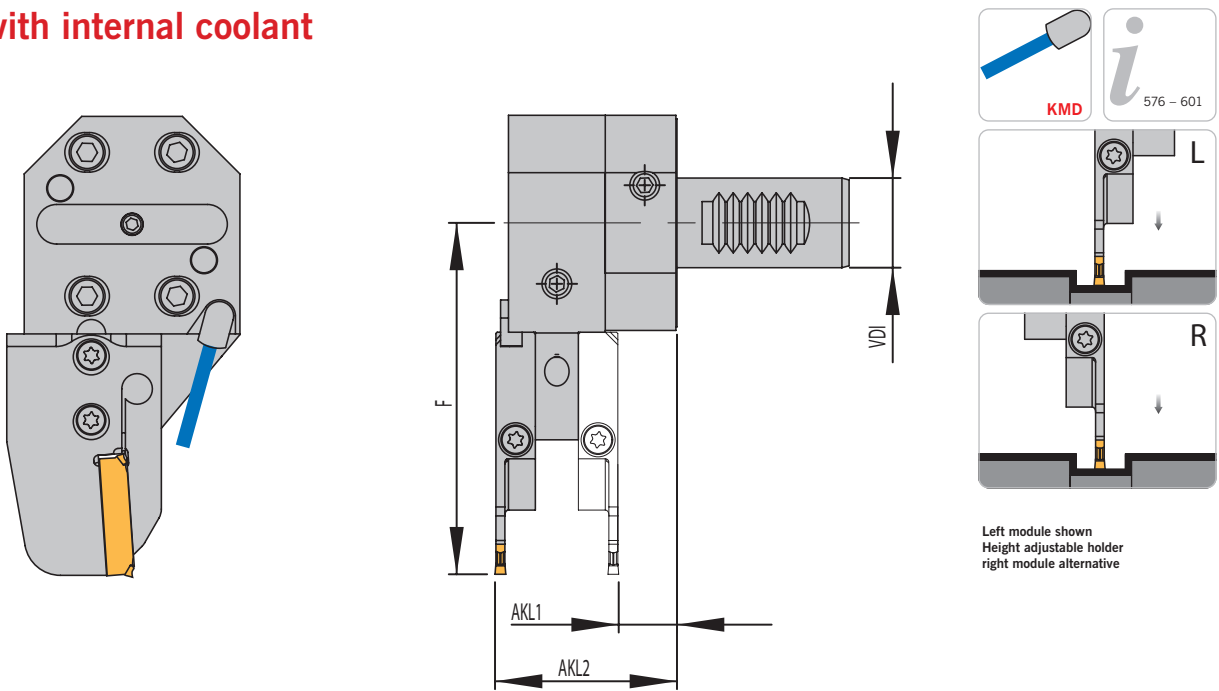
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder	Right-hand holder
HVDI 25WL-7-35-MSA-SL	HVDI 25WR-7-35-MSA-SR
	
Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

VDI30-with internal coolant



Basic holder

Designation	VDI	AKL1	AKL2	Module	PG 43
HVDS 30-1	30	16.3 (0.642")	50.8 (2.000")	MSA-...	●

Module

F = dimension of Modul MSA-...

Designation	VDI30...
	F
MSA-...-32	86.0 (3.386")
MSA-...-44	91.0 (3.583")
MSA-...-52	101.5 (3.996")
MSA-...-65	101.5 (3.996")
MSA-...-80	109.0 (4.291")
MSA-...-105	122.0 (4.803")
MSA-...-125	132.0 (5.197")
MSA-...-140	139.5 (5.492")

Spare Parts

Holder	Screw for module	Key	Coolant jet
HVDS 30-1	AS 0070	T5220-IP	KMD 0825-3E

Spare Parts

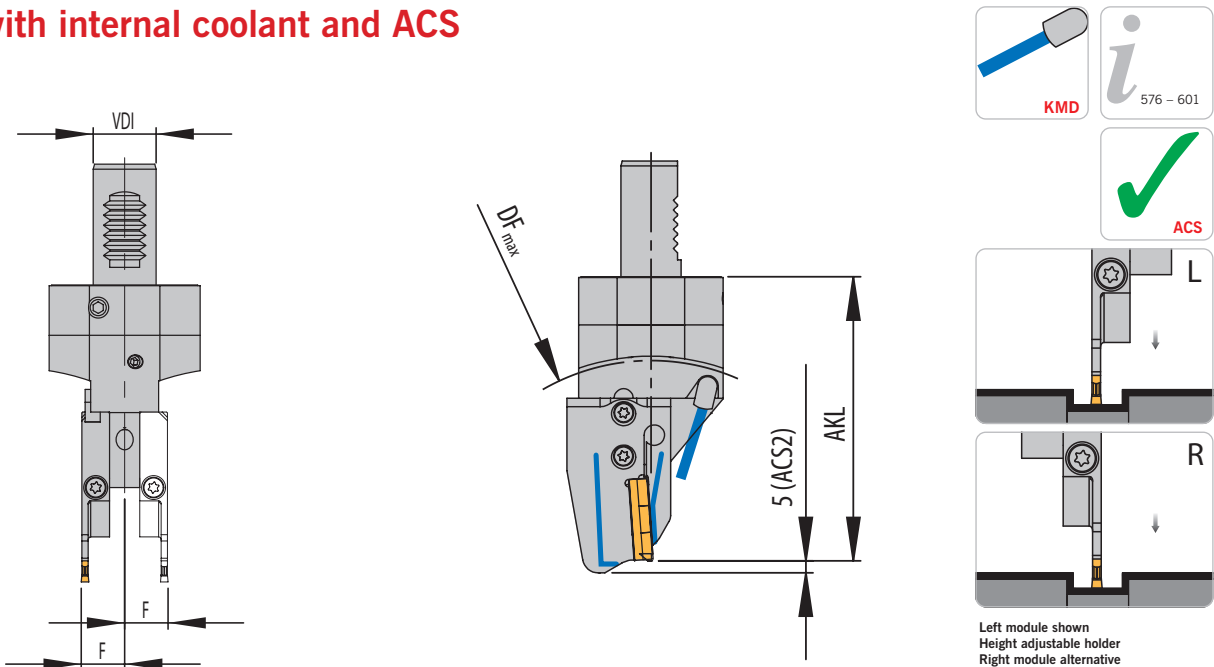
Module	Screw for module	Key
MSA-...	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

Remark: All shown options are available with only one holder.

VDI30-with internal coolant and ACS



Basic holder

Designation	VDI	F	Module	PG 43
HVDS 30-7-ACS	30	17.3 (0.681")	MSA-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	VDI30...	
	AKL	DF _{max}
MSA-...-32-ACS.	109.0 (4.291")	145 (5.709")
MSA-...-44-ACS.	114.0 (4.488")	155 (6.102")
MSA-...-52-ACS.	124.5 (4.902")	180 (7.087")
MSA-...-65-ACS.	124.5 (4.902")	180 (7.087")
MSA-...-69-ACS.	126.4 (4.980")	180 (7.087")
MSA-...-80-ACS.	132.0 (5.197")	190 (7.480")
MSA-...-90-ACS.	137.0 (5.394")	200 (7.874")
MSA-...-105-ACS.	145.0 (5.709")	215 (8.465")

Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet
HVDS 30-7-ACS	AS 0070	T5220-IP	OR 28X1,8-NBR80	KMD 0825-3E

Ersatzteile / Spare Parts / Ricambi

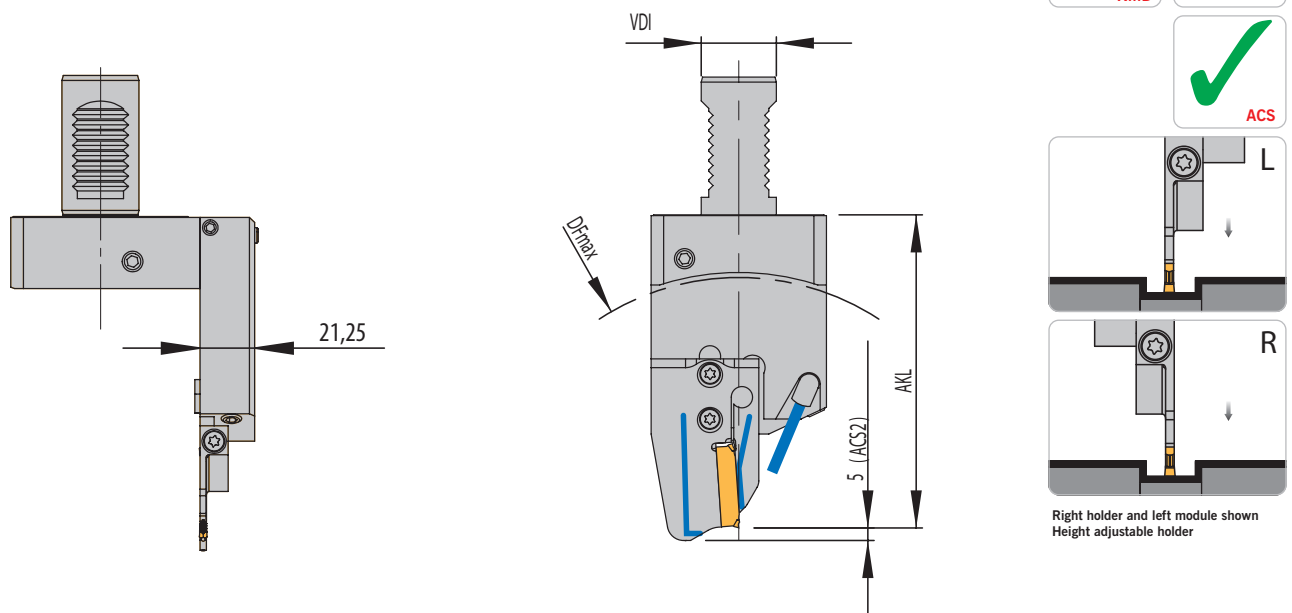
Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

Remark: All shown options are available with only one holder.

VDI30-with internal coolant and ACS



Basic holder

Designation	VDI	F1	F2	Module	PG 43
HVDI 30L-7-38-MSA-SR	30	38,5 (1.516")	-	MSA-SR...ACS.	●
HVDI 30L-7-60-MSA-SL	30	-	60,3 (2.374")	MSA-SL...ACS.	●
HVDI 30R-7-38-MSA-SL	30	38,5 (1.516")	-	MSA-SL...ACS.	●
HVDI 30R-7-60-MSA-SR	30	-	60,3 (2.374")	MSA-SR...ACS.	●
HVDI 30L-7-38-107-MSA-SR	30	38,5 (1.516")	-	MSA-SR...ACS.	●
HVDI 30L-7-60-107-MSA-SL	30	-	60,3 (2.374")	MSA-SL...ACS.	●
HVDI 30R-7-38-107-MSA-SL	30	38,5 (1.516")	-	MSA-SL...ACS.	●
HVDI 30R-7-60-107-MSA-SR	30	-	60,3 (2.374")	MSA-SR...ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	VDI30...		VDI30...-107	
	AKL	DF_{max}	AKL	DF_{max}
MSA-...-105-ACS.	145.0 (5.709")	235 (9.252")	127.5 (5.020")	200 (7.874")
MSA-...-32-ACS.	109.5 (4.311")	165 (6.496")	91.5 (3.602")	130 (5.118")
MSA-...-44-ACS.	114.5 (4.508")	175 (6.890")	96.5 (3.799")	140 (5.512")
MSA-...-52-ACS.	125.0 (4.921")	200 (7.874")	107.0 (4.213")	160 (6.299")
MSA-...-65-ACS.	125.0 (4.921")	200 (7.874")	107.0 (4.213")	160 (6.299")
MSA-...-69-ACS.	127.0 (5.000")	200 (7.874")	109.0 (4.291")	165 (6.496")
MSA-...-80-ACS.	132.5 (5.217")	210 (8.268")	114.5 (4.508")	175 (6.890")
MSA-...-90-ACS.	137.5 (5.413")	220 (8.661")	119.5 (4.705")	185 (7.283")

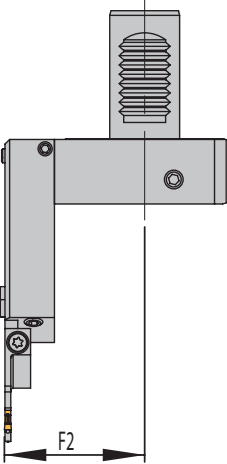
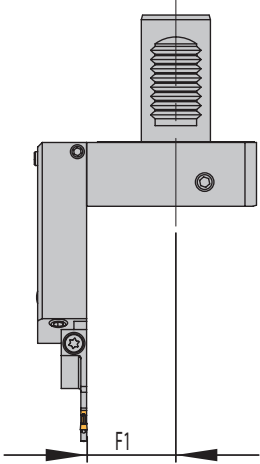
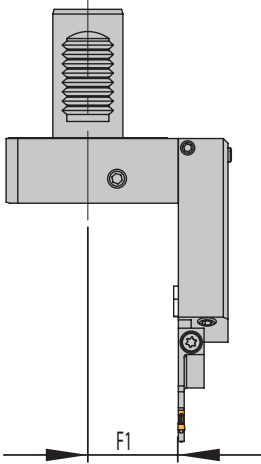
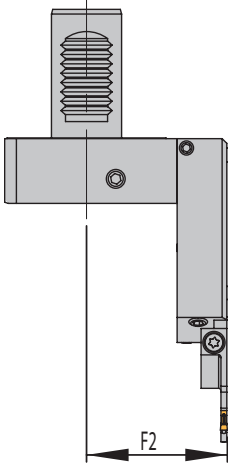
Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet	Locking pin
HVDI 30.-	AS 0070	T5220-IP	OR 28X1,8-NBR80	KMD 0820-4BJ	ZS0820G

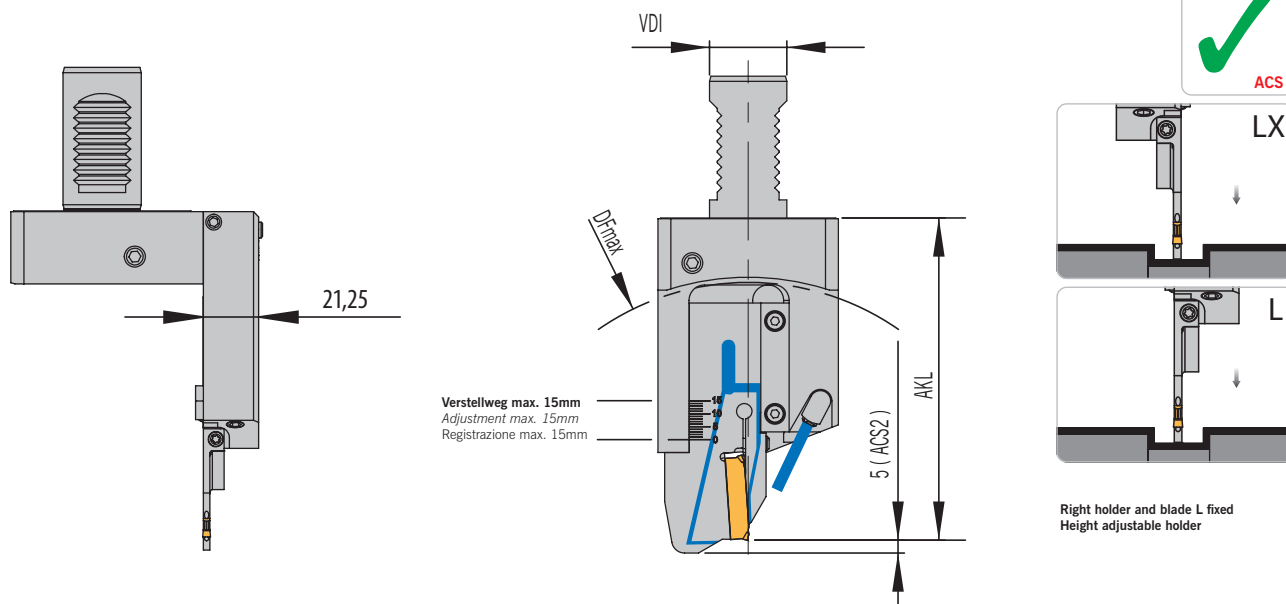
Spare Parts

Module	Screw for instert	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder		Right-hand holder	
HVDI 30L-7-28-MSA-SL	HVDI 30L-7-38-MSA-SR	HVDI 30R-7-60-MSA-SL	HVDI 30R-7-60-MSA-SR
HVDI 30L-7-38-107-MSA-SL	HVDI 30L-7-28-107-MSA-SR	HVDI 30R-7-60-107-MSA-SL	HVDI 30R-7-60-107-MSA-SR
			
Left module shown	Right module shown	Left module shown	Right module shown
			
Normal assembly	Normal assembly	Normal assembly	Normal assembly
			
Upside down assembly	Upside down assembly	Upside down assembly	Upside down assembly

VDI30–with internal coolant and ACS for KSA blades



Basic holderre

Designation	VDI	F1	F2	Blade	PG 43
HVDI 30L-7-38-KSA-32LX	30	38,5 (1.516")	-	KSA 3208LX...ACS.	●
HVDI 30L-7-60-KSA-32L	30	-	60,3 (2.374")	KSA 3208L...ACS.	●
HVDI 30R-7-38-KSA-32L	30	38,5 (1.516")	-	KSA 3208L...ACS.	●
HVDI 30R-7-60-KSA-32LX	30	-	60,3 (2.374")	KSA 3208LX...ACS.	●

Remark for blade „L“ and „LX“: For optimum coolant flow the blade should not exceed a 0.591“ mm overhang.

Part-off blade

DF_{max} = maximum chuck diameter and AKL = Overhang length with blades KSA-..

Designation	VDI30...	
	AKL	$DF_{max}^{1)}$
KSA...-44-ACS.	114.5 (4.508")	177 (6.969")
KSA...-65-ACS.	125.0 (4.921")	198 (7.795")

1) Formula for DF_{max} for variable overhang of blade: $DF_{max} (AKL_{min}-26 + \text{adjustment}) \times 2$

Remark: For blades to suit please see chapter SA (Page 94 to 111)

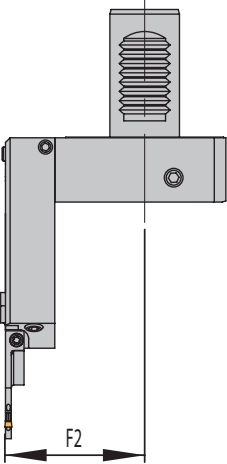
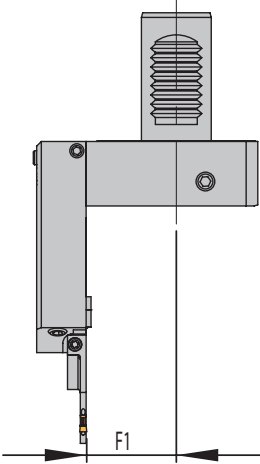
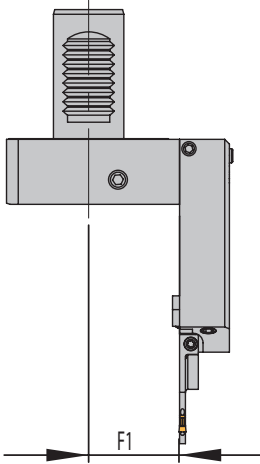
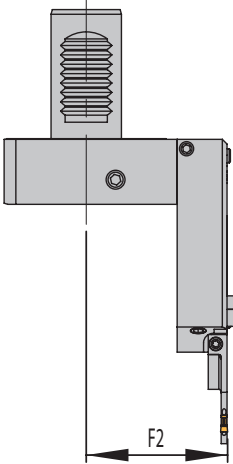
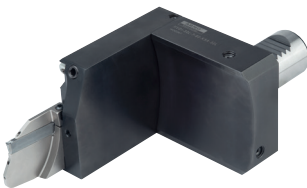
Spare Parts

Holder	Span screw for clamp	Clamp	Coolant jet	Locking pin	O-ring
HVDI 30.-...-KSA-..	DIN912-M4X12-12.9	K-HVDI-10-50	KMD 0820-4BJ	ZS0820G	OR 28X1,8-NBR80

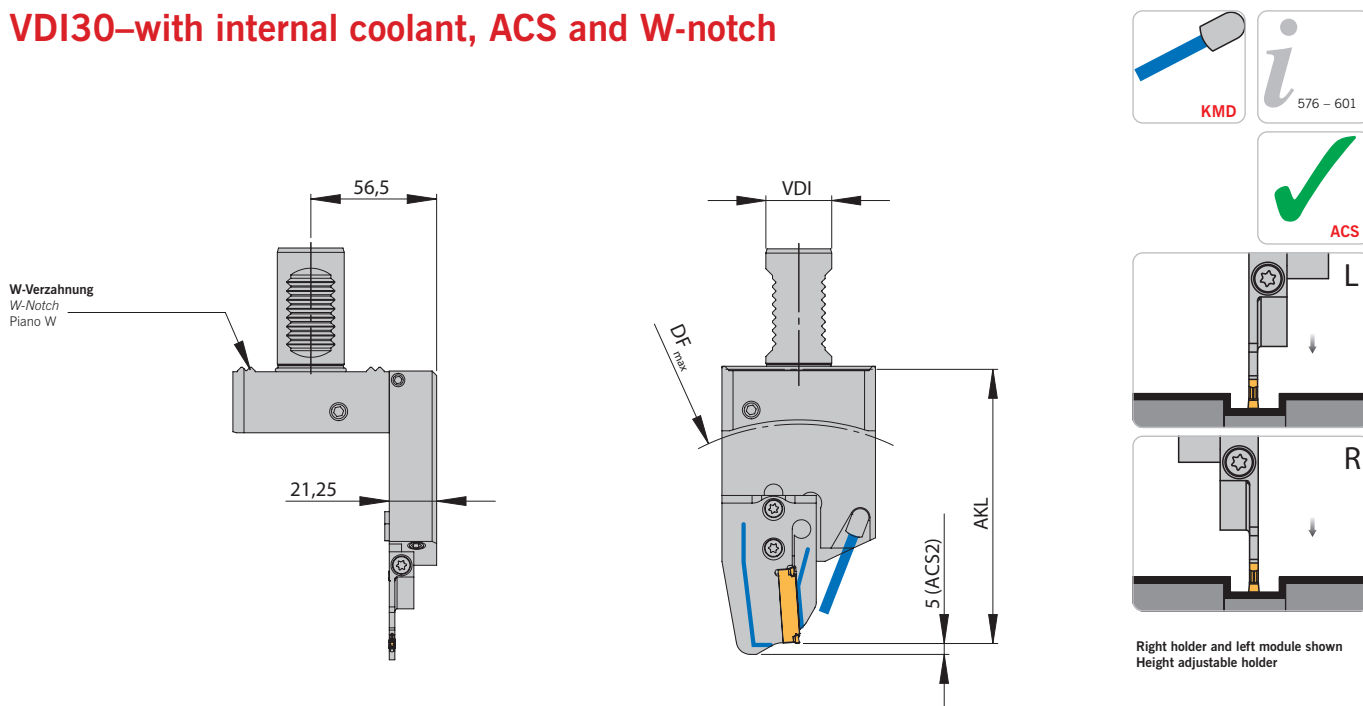
Spare Parts

Blade	Span screw for insert	Key
KSA 3208.	AS 0022	T5115-IP

Assembly options

Left-hand holder		Right-hand holder	
HVDI 30L-7-60-KSA-32L	HVDI 30L-7-38-KSA-32LX	HVDI 30R-7-38-KSA-32L	HVDI 30R-7-60-KSA-32LX
			
Klinge L montiert Blade L shown <i>Lama L in figura</i>	Klinge LX montiert Blade LX shown <i>Lama LX in figura</i>	Klinge L montiert Blade L shown <i>Lama L in figura</i>	Klinge LX montiert Blade LX shown <i>Lama LX in figura</i>
			
Normal assembly	Normal assembly	Normal assembly	Normal assembly
			
Upside down assembly	Upside down assembly	Upside down assembly	Upside down assembly

VDI30-with internal coolant, ACS and W-notch



Basic holder

Designation	VDI	F1	Module	PG 43
HVDI 30WL-7-35-MSA-SR	30	35 (1.378")	MSA-SR...-ACS.	●
HVDI 30WR-7-35-MSA-SL	30	35 (1.378")	MSA-SL...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	VDI30W...	
	AKL	DF _{max}
MSA-...-32-ACS.	109.5 (4.311")	165 (6.496")
MSA-...-44-ACS.	114.5 (4.508")	175 (6.890")
MSA-...-52-ACS.	125.0 (4.921")	200 (7.874")
MSA-...-65-ACS.	125.0 (4.921")	200 (7.874")
MSA-...-69-ACS.	127.0 (5.000")	200 (7.874")
MSA-...-80-ACS.	132.5 (5.217")	210 (8.268")
MSA-...-90-ACS.	137.5 (5.413")	220 (8.661")
MSA-...-105-ACS.	145.0 (5.709")	235 (9.252")

Spare Parts

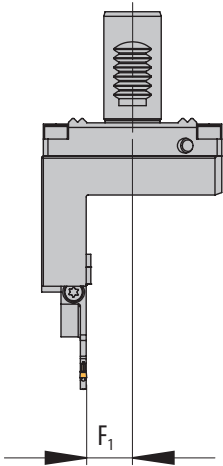
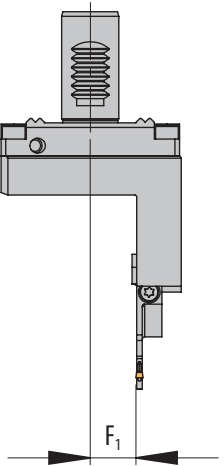
Holder	Screw for module	Key	O-ring	Coolant jet	Locking pin
HVDI 30W.-	AS 0070	T5220-IP	OR 23,6X1,8-NBR80*	KMD 0820-4BJ	ZS0820G

* Not included in the delivery.

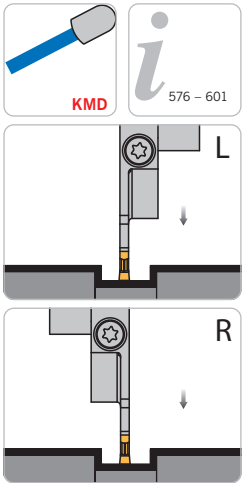
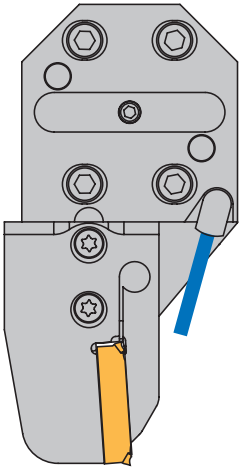
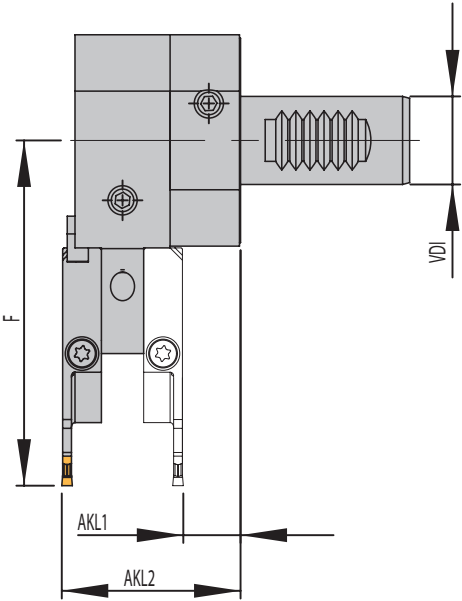
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder	Right-hand holder
HVDI 30WL-7-35-MSA-SR	HVDI 30WR-7-35-MSA-SL
	
Right module shown	Left module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

VDI40-with internal coolant



Left module shown
Height adjustable holder
Right module alternative

Basic holder

Designation	VDI	AKL1	AKL2	Module	PG 43
HVDS 40-1	40	21,3 (0.839")	55,8 (2.197")	MSA-...	●

Module

F = dimension of Modul MSA-...

Designation	VDI40...
	F
MSA-...-32	95.0 (3.740")
MSA-...-44	100.0 (3.937")
MSA-...-52	110.5 (4.350")
MSA-...-65	110.5 (4.350")
MSA-...-80	118.0 (4.646")
MSA-...-105	118.0 (5.157")
MSA-...-125	141.0 (5.551")
MSA-...-140	148.5 (5.846")

Spare Parts

Holder	Screw for module	Key	Coolant jet
HVDS 40-1	AS 0070	T5220-IP	KMD 0825-3E

Spare Parts

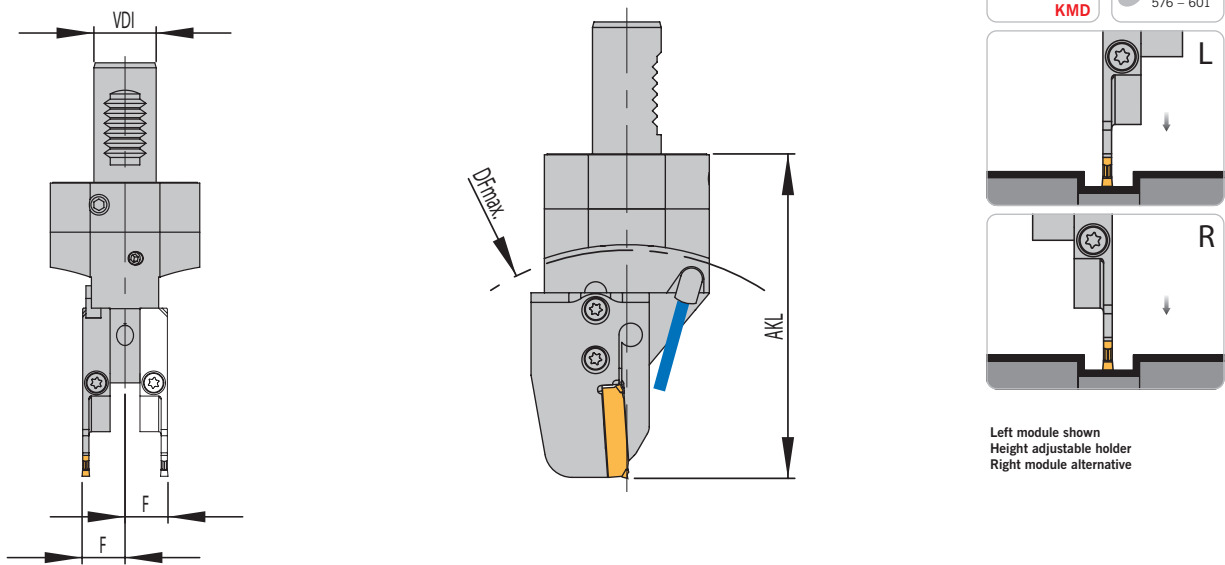
Module	Screw for module	Key
MSA-...	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

Remark: All shown options are available with only one holder.

VDI40-with internal coolant



Basic holder

Designation	VDI	F	Module	PG 43
HVDS 40-7	40	17.3 (0.681")	MSA-...	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	VDI40...	
	AKL	DF _{max}
MSA-...-32	130.0 (5.118")	170 (6.693")
MSA-...-44	135.0 (5.315")	180 (7.087")
MSA-...-52	145.0 (5.709")	200 (7.874")
MSA-...-65	145.0 (5.709")	200 (7.874")
MSA-...-80	163.0 (6.417")	215 (8.465")
MSA-...-105	166.0 (6.535")	240 (9.449")
MSA-...-125	176.0 (6.929")	260 (10.236")
MSA-...-140	183.5 (7.224")	275 (10.827")

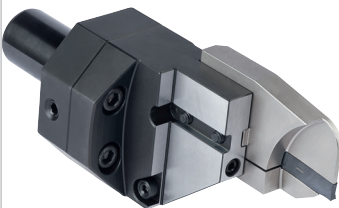
Spare Parts

Holder	Screw for module	Key	Coolant jet
HVDS 40-7	AS 0070	T5220-IP	KMD 0825-3E

Spare Parts

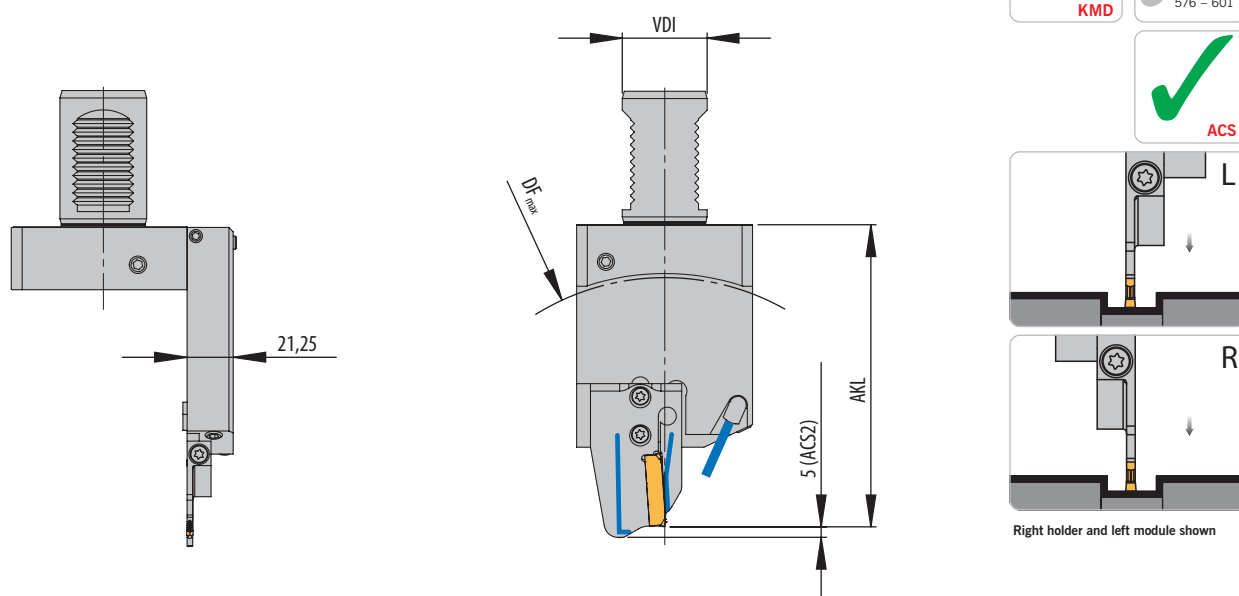
Module	Screw for module	Key
MSA-...	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

Remark: All shown options are available with only one holder.

VDI40-with internal coolant and ACS



Basic holder

Designation	VDI	F1	F2	Module	PG 43
HVDI 40L-7-38-MSA-SR	40	38,5 (1.516")	-	MSA-SR-...-ACS.	●
HVDI 40L-7-60-MSA-SL	40	-	60,3 (2.374")	MSA-SL-...-ACS.	●
HVDI 40R-7-38-MSA-SL	40	38,5 (1.516")	-	MSA-SL-...-ACS.	●
HVDI 40R-7-60-MSA-SR	40	-	60,3 (2.374")	MSA-SR-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	VDI40...	
	AKL	DF_{max}
MSA-...-32-ACS.	127.0 (5.000")	200 (7.874")
MSA-...-44-ACS.	132.0 (5.197")	210 (8.268")
MSA-...-52-ACS.	142.5 (5.610")	235 (9.252")
MSA-...-65-ACS.	142.5 (5.610")	235 (9.252")
MSA-...-69-ACS.	144.5 (5.689")	235 (9.252")
MSA-...-80-ACS.	150.0 (5.901")	245 (9.646")
MSA-...-90-ACS.	155.0 (6.102")	255 (10.039")
MSA-...-105-ACS.	163.0 (6.417")	270 (10.630")

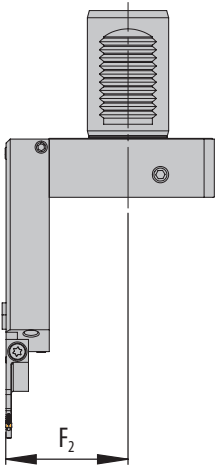
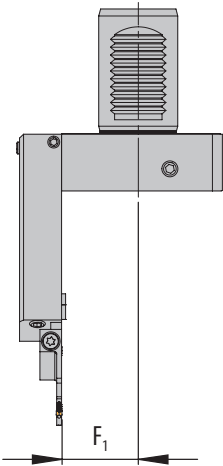
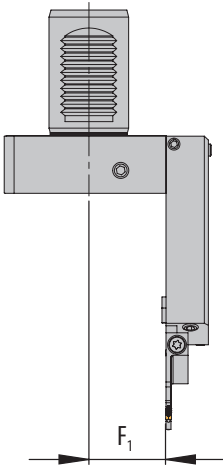
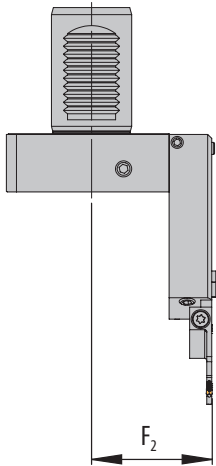
Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet	Locking pin
HVDI 40.-	AS 0070	T5220-IP	OR 38,7X2,65-NBR80	KMD 0820-4BJ	ZS0820G

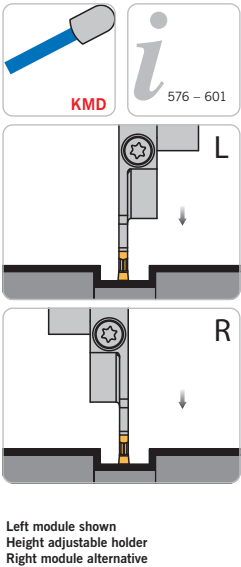
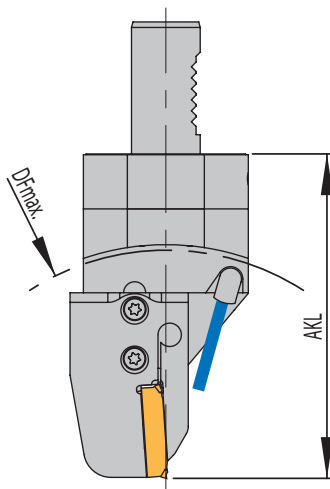
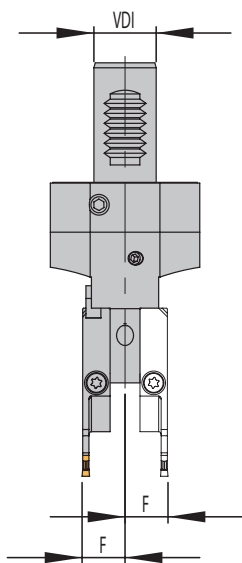
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder		Right-hand holder	
HVDI 40L-7-60-MSA-SL	HVDI 40L-7-38-MSA-SR	HVDI 40R-7-28-MSA-SL	HVDI 40R-7-60-MSA-SR
			
Left module shown	Right module shown	Left module shown	Right module shown
			
Normal assembly	Normal assembly	Normal assembly	Normal assembly
			
Upside down assembly	Upside down assembly	Upside down assembly	Upside down assembly

VDI50-with internal coolant and ACS



Basic holder

Designation	VDI	F	Module	PG 43
HVDS 50-7	50	17.3 (0.681")	MSA-...	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	VDI50...	
	AKL	DF _{max}
MSA-...-32	130.0 (5.118")	170 (6.693")
MSA-...-44	135.0 (5.315")	180 (7.087")
MSA-...-52	145.0 (5.709")	200 (7.874")
MSA-...-65	145.0 (5.709")	200 (7.874")
MSA-...-80	153.0 (6.024")	215 (8.465")
MSA-...-105	166.0 (6.535")	240 (9.449")
MSA-...-125	176.0 (6.929")	260 (10.236")
MSA-...-140	183.5 (7.224")	275 (10.827")

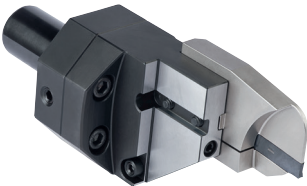
Spare Parts

Holder	Screw for module	Key	Coolant jet
HVDS 50-7	AS 0070	T5220-IP	KMD 0825-3E

Spare Parts

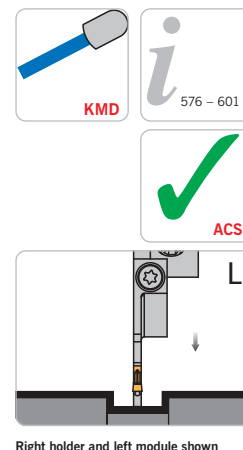
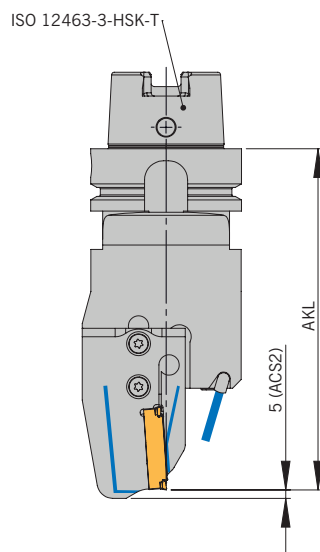
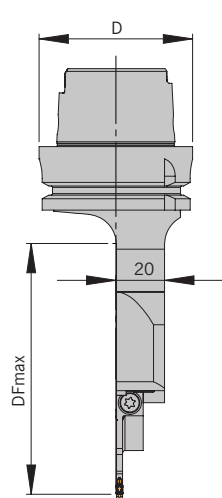
Module	Screw for module	Key
MSA-...	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

Remark: All shown options are available with only one holder.

HSK-T63-with internal coolant and ACS



Basic holder

Designation	Nominal size	D	Module	PG 43
HSK-T63-R-7-0-MSA-SL-ACS	T63	63	MSA-SL...-ACS.	●

Remark: when parting-off > Ø90mm, we recommend a max insert width of 3mm.

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	...T63...	
	AKL	DF_{max}
MSA-...-32-ACS.	127.0 (5.000")	170 (6.693")
MSA-...-44-ACS.	132.0 (5.197")	180 (7.087")
MSA-...-52-ACS.	142.5 (5.610")	205 (8.071")
MSA-...-65-ACS.	142.5 (5.610")	205 (8.071")
MSA-...-69-ACS.	144.5 (5.689")	205 (8.071")
MSA-...-80-ACS.	150.0 (5.901")	220 (8.661")

Spare Parts

Holder	Screw for module	Key	Coolant jet	Locking pin
HSK-T63	AS 0070	T5220-IP	KMD 0516	ZS0512G

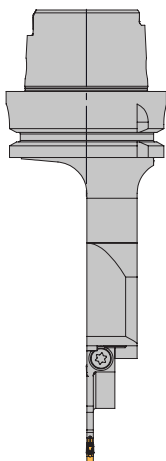
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

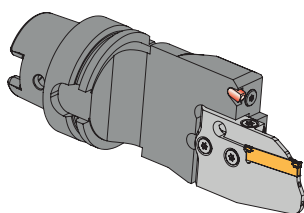
Assembly options

Right-hand holder

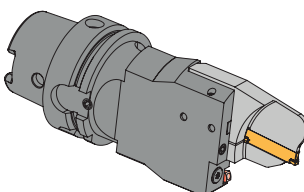
HSK-T63-R-7-0-MSA-SL-ACS



Left module shown

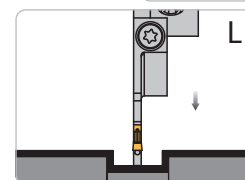
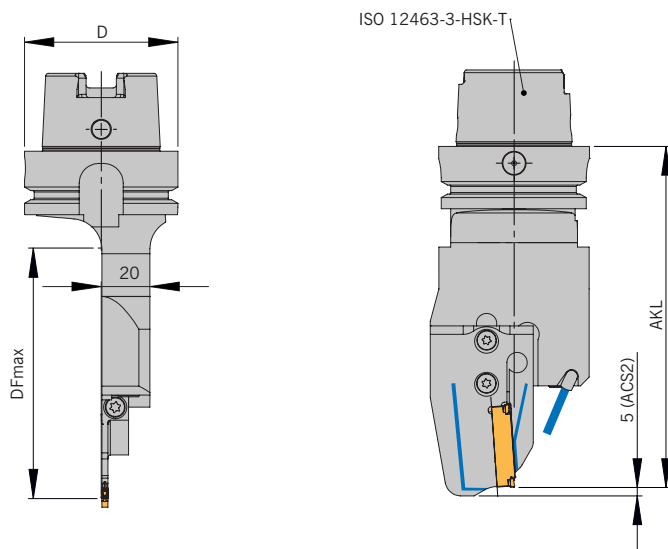


Normal assembly



Upside down assembly

ST-HSK-T63 (ST-Stama)–with internal coolant and ACS



und
Right holder and left module shown
e

Basic holder

Designation	Nominal size	D	Module	PG 43
HST-SK-T63-R-7-0-MSA-SL-ACS	T63	63	MSA-SL-...-ACS.	●

Remark: when parting-off > Ø90mm, we recommend a max insert width of 3mm.

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HST-SK-T63	
	AKL	DF_{max}
MSA-...-32-ACS.	127.0 (5.000")	170 (6.693")
MSA-...-44-ACS.	132.0 (5.197")	180 (7.087")
MSA-...-52-ACS.	142.5 (5.610")	205 (8.071")
MSA-...-65-ACS.	142.5 (5.610")	205 (8.071")
MSA-...-69-ACS.	144.5 (5.689")	205 (8.071")
MSA-...-80-ACS.	150.0 (5.901")	220 (8.661")

Spare Parts

Holder	Screw for module	Key	Coolant jet	Locking pin
ST-HSK-T63	AS 0070	T5220-IP	KMD 0516	ZS0512G

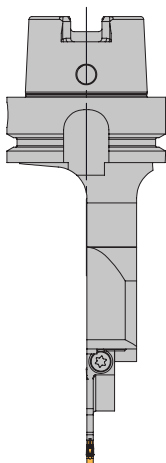
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

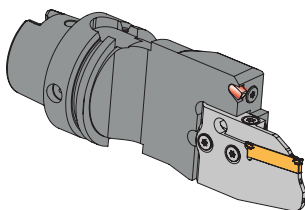
Assembly options

Right-hand holder

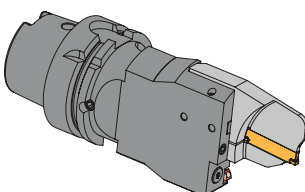
HST-SK-T63-R-7-0-MSA-SL-ACS



Left module shown

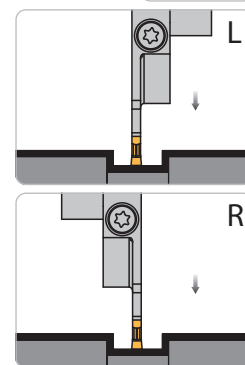
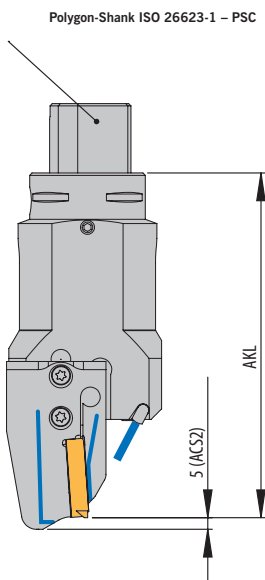
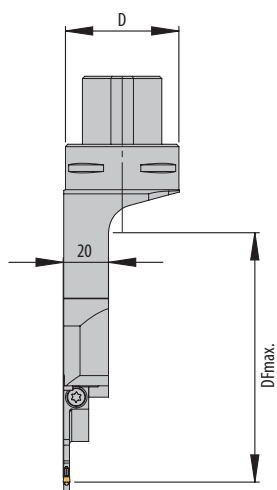


Normal assembly



Upside down assembly

PSC40/PSC50/PSC63–with internal coolant and ACS



Left holder and left module shown

Basic holder

Designation	Nominal size	D	F2	Module	PG 43
PSC40-L-7-21-MSA-SL-ACS	PSC40	40	21 (0.827")	MSA-SL-...-ACS.	●
PSC40-R-7-21-MSA-SR-ACS	PSC40	40	21 (0.827")	MSA-SR-...-ACS.	●
PSC50-L-7-26-MSA-SL-ACS	PSC50	50	26 (1.024")	MSA-SL-...-ACS.	●
PSC50-R-7-26-MSA-SR-ACS	PSC50	50	26 (1.024")	MSA-SR-...-ACS.	●
PSC63-L-7-32-MSA-SL-ACS	PSC63	63	32 (1.260")	MSA-SL-...-ACS.	●
PSC63-R-7-32-MSA-SR-ACS	PSC63	63	32 (1.260")	MSA-SR-...-ACS.	●

* When component is larger than 200 (7.874") mm diameter, then larger DFmax is possible. Please ask for more information.

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	PSC40...		PSC50...		PSC60...	
	AKL	DF _{max}	AKL	DF _{max}	AKL	DF _{max}
MSA-...-32-ACS.	128.5 (5.059")	175 (6.890")	133.5 (5.256")	185 (7.283")	142.0 (5.591")	190 (7.480")
MSA-...-44-ACS.	133.5 (5.256")	185 (7.283")	138.5 (5.453")	195 (7.677")	147.0 (5.787")	200 (7.874")
MSA-...-52-ACS.	144.0 (5.669")	210 (8.268")	149.0 (5.866")	215 (8.465")	157.5 (6.201")	220 (8.661")
MSA-...-65-ACS.	144.0 (5.669")	210 (8.268")	149.0 (5.866")	215 (8.465")	157.5 (6.201")	220 (8.661")
MSA-...-69-ACS.	146.0 (5.748")	215 (8.465")	151.0 (5.945")	220 (8.661")	159.5 (6.280")	225 (8.858")
MSA-...-80-ACS.	151.5 (5.965")	225 (8.858")	156.5 (6.161")	230 (9.055")	165.0 (6.496")	235 (9.252")
MSA-...-90-ACS.	156.5 (6.161")	235 (9.252")	164.5 (6.476")	250 (9.843")	178.0 (7.008")	260 (10.236")
MSA-...-105-ACS.	164.5 (6.476")	250 (9.843")	169.5 (6.673")	255 (10.039")	178.0 (7.008")	260 (10.236")

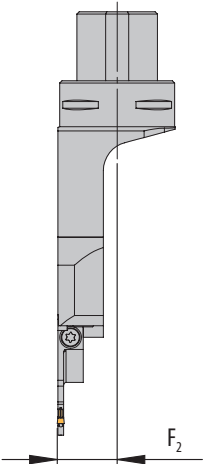
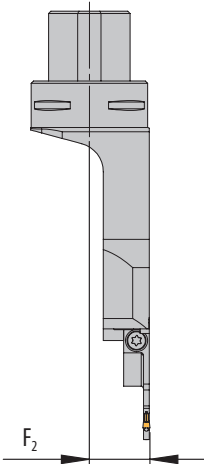
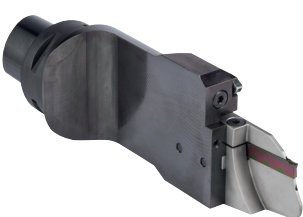
Spare Parts

Holder	Screw for module	Key	Coolant jet	Locking pin
PSC-L-/PSC-R.	AS 0070	T5220-IP	KMD 0516	ZS0512G

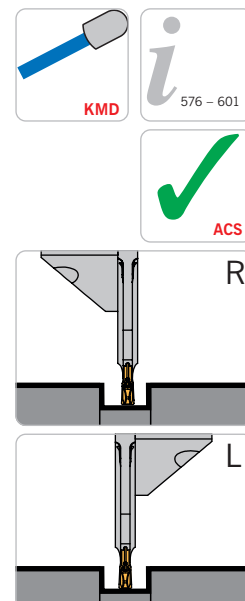
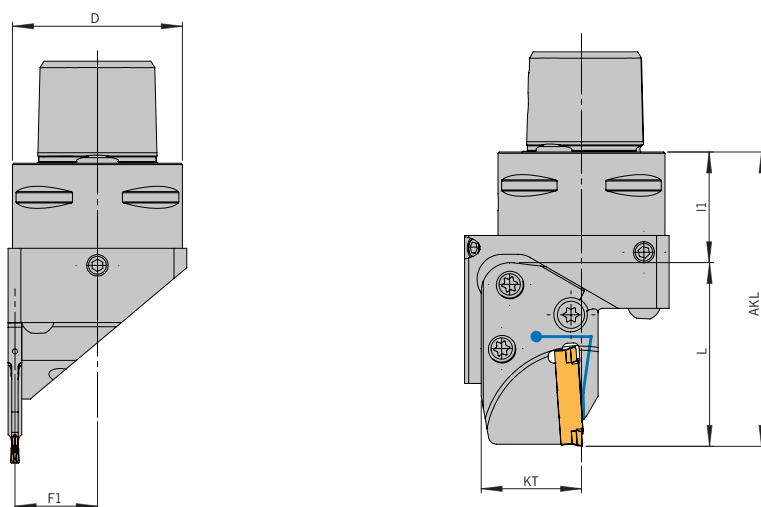
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder	Right-hand holder
PSC40-L-7-21-MSA-SL-ACS	PSC40-R-7-21-MSA-SR-ACS
PSC50-L-7-26-MSA-SL-ACS	PSC50-R-7-26-MSA-SR-ACS
PSC63-L-7-32-MSA-SL-ACS	PSC63-R-7-32-MSA-SR-ACS
	
Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

PSC40–with internal coolant and ACS



Left holder and left module shown

Basic holder

Designation	Nominal size	D	L1	F1	Module	PG 43
PSC40-L-7-21-MSA-IL-ACS	PSC40	40	26.5 (1.043")	19.4 (0.764")	MSA-IL/ILL...-ACS.	●
PSC40-R-7-21-MSA-IR-ACS	PSC40	40	26.5 (1.043")	19.4 (0.764")	MSA-IR/IRR...-ACS.	●

Module

DF_{max} = maximum chuck diameter and **AKL** = Overhang length with modules MSA-..

Designation	PSC40...	
	AKL 1)	DF _{max}
MSA-I.-L37...-ACS.	63.5 (2.500")	See 2)
MSA-I.-L41...-ACS.	67.5 (2.657")	See 2)
MSA-I.-L43,5...-ACS.	69.0 (2.717")	See 2)
MSA-I.-L44...-ACS.	70.5 (2.776")	See 2)
MSA-I.-L45,5...-ACS.	72.0 (2.835")	See 2)
MSA-I.-L48,5...-ACS.	75.0 (2.953")	See 2)
MSA-I.-L55...-ACS.	81.5 (3.209")	See 2)

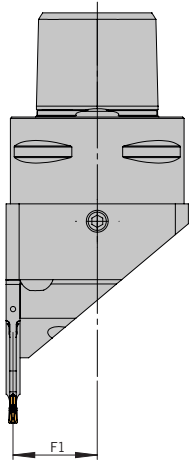
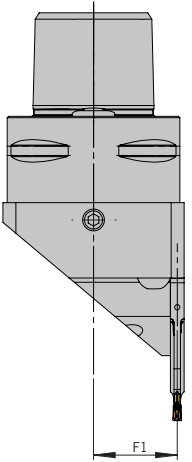
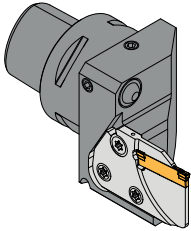
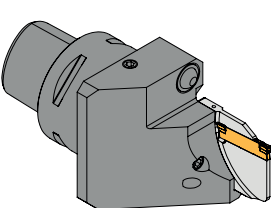
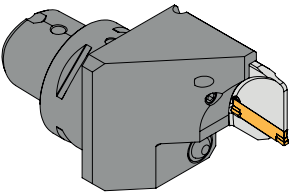
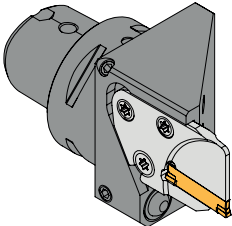
1) Calculation for AKL if the module is not mentioned: $AKL = L1 + L$ (length of the module)

2) Calculation F-dimension for: MSA-IL/IR: $F = F1 + 1/2 \text{ EB}$ (1/2 EB = 1/2 grooving width), Calculation F-dimension for: MSA-ILL/IRR: $F = F1 + 1,6$ (1,6 = 1/2 b2)

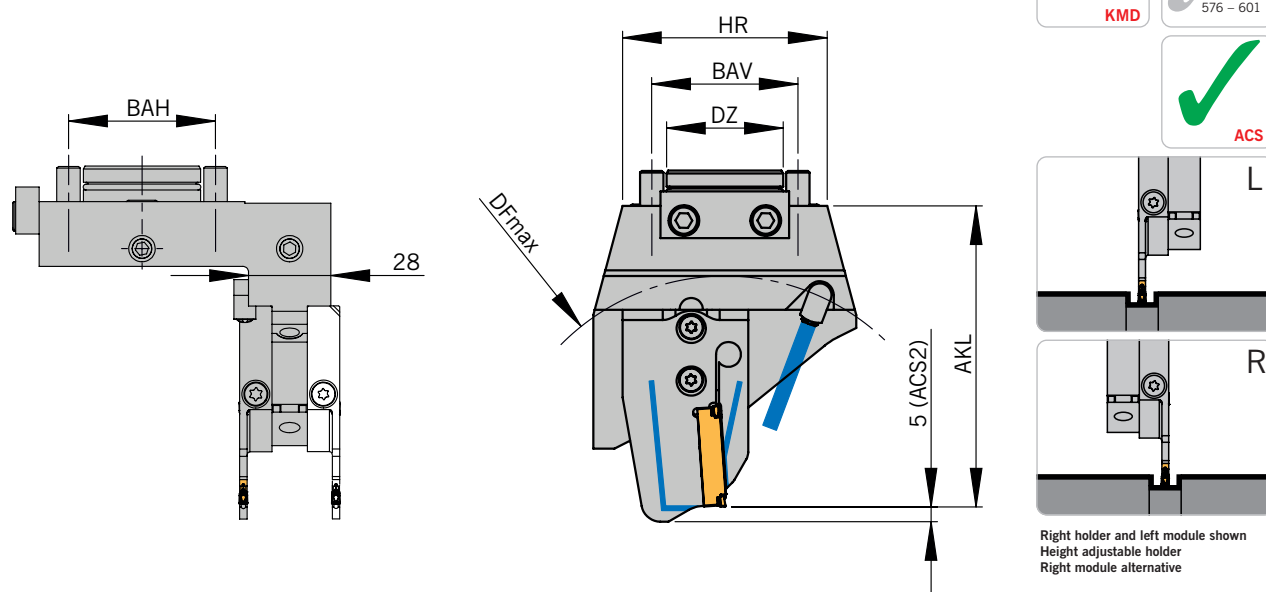
Spare Parts

Holder	Screw for module	Key
PSC..	2 x AS 0049 / 1 x AS 0050*	T5220-IP

Assembly options

Left-hand holder	Right-hand holder
PSC40-L-7-21-MSA-IL-ACS	PSC40-R-7-21-MSA-IR-ACS
	
Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

HBSA–with internal coolant and ACS



Basic holder

Designation	BAH	BAV	HR	DZ	F1	F2	Module	PG 43
HBSA-50-50-R-ACS	50 (1.968)	50 (1.968)	70 (2.756)	40 (1.575)	33 (1.299)	67,5 (2.657)	MSA-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	HBSA...	
	AKL	DF_{max}
MSA-...-32-ACS.	87.4 (3.445")	125 (4.921")
MSA-...-44-ACS.	92.5 (3.642")	135 (5.315")
MSA-...-52-ACS.	103.0 (4.055")	155 (6.102")
MSA-...-65-ACS.	103.0 (4.055")	155 (6.102")
MSA-...-69-ACS.	105.0 (4.134")	160 (6.299")
MSA-...-80-ACS.	110.5 (4.350")	170 (6.693")
MSA-...-90-ACS.	115.5 (4.547")	180 (7.087")
MSA-...-105-ACS.	123.5 (4.862")	195 (7.677")

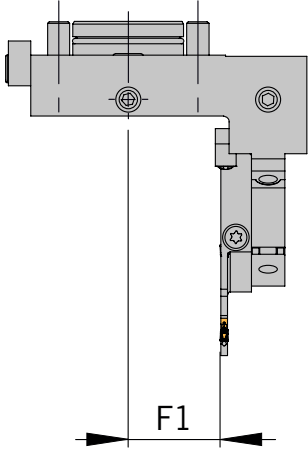
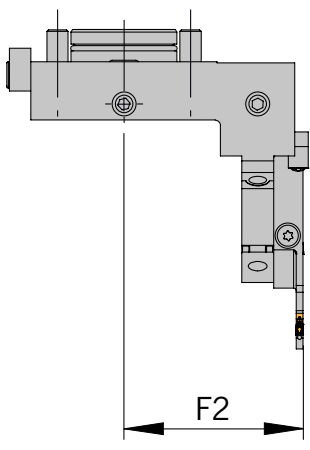
Spare Parts

Holder	Screw for	Key	O-ring	O-ring 2	O-Ring 3	Coolant jet	Locking pin
HBSA-50-50-R-ACS	AS 0070	T5220-IP	OR 36X2 P	OR 30X2-N-NBR70	OR 7X2 P	KMD 0825-3E	ZS0818

Spare Parts

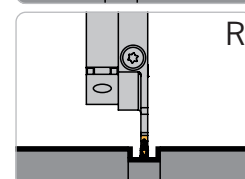
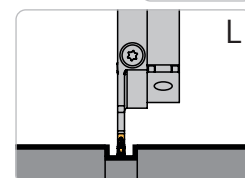
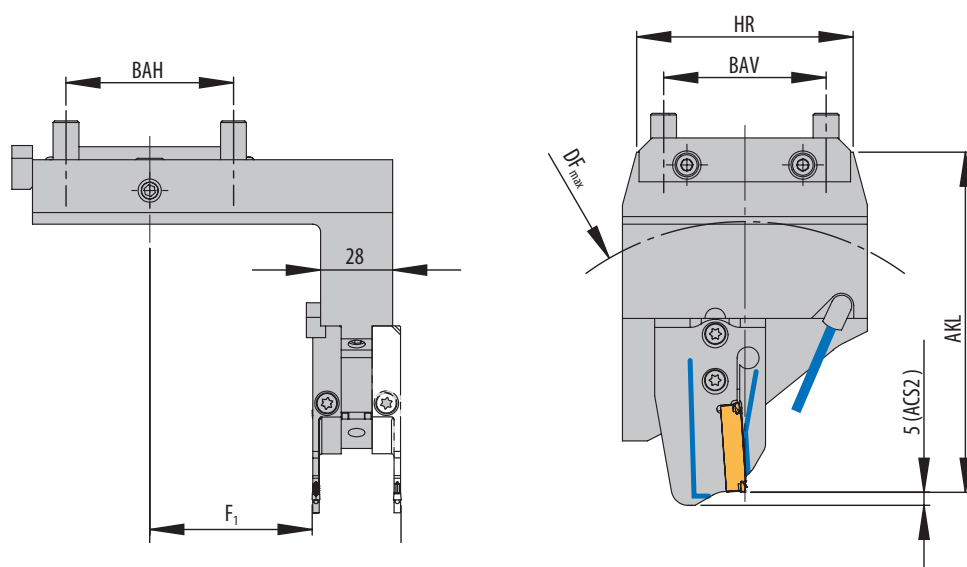
Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Right-hand holder	
HBSA-50-50-R-ACS	
	
Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

Remark: All shown options are available with only one holder.

HBSA–with internal coolant and ACS



Right holder and left module shown
Height adjustable holder
Right module alternative

Basic holder

Designation	BAH	BAV	HR	F1	F2	Module	PG 43
HBSA-65-63-R-ACS	65 (2.559")	63 (2.480")	84 (3.307")	63 (2.480")	97.5 (3.839")	MSA-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	HBSA...		HBSA-120.0...	
	AKL	DF_{max}	AKL	DF_{max}
MSA-...-32-ACS.	116.5 (4.587")	175 (6.890")	104.5 (4.114")	160 (6.299")
MSA-...-44-ACS.	121.5 (4.783")	185 (7.283")	109.5 (4.311")	170 (6.693")
MSA-...-52-ACS.	132.0 (5.197")	210 (8.268")	120.0 (4.724")	190 (7.480")
MSA-...-65-ACS.	132.0 (5.197")	210 (8.268")	120.0 (4.724")	190 (7.480")
MSA-...-69-ACS.	134.0 (5.276")	215 (8.465")	122.0 (4.803")	195 (7.677")
MSA-...-80-ACS.	139.5 (5.492")	225 (8.858")	127.5 (5.020")	205 (8.071")
MSA-...-90-ACS.	144.5 (5.689")	235 (9.252")	132.5 (5.217")	215 (8.465")
MSA-...-105-ACS.	152.5 (6.004")	250 (9.843")	140.5 (5.531")	230 (9.055")

Spare Parts

Holder	Screw for module	Key	T-slot fixture 1	T-slot fixture 2	O-ring	Coolant jet
HBSA-65-63-..	AS 0070	T5220-IP	NS 15 (0.591")/14X10X69	NS 20X9,7X15	OR 7X2 P	KMD 0825-3E

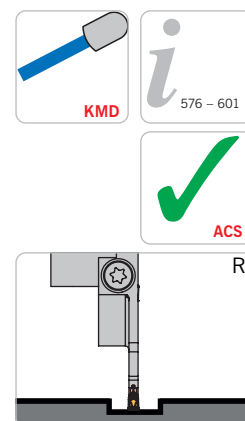
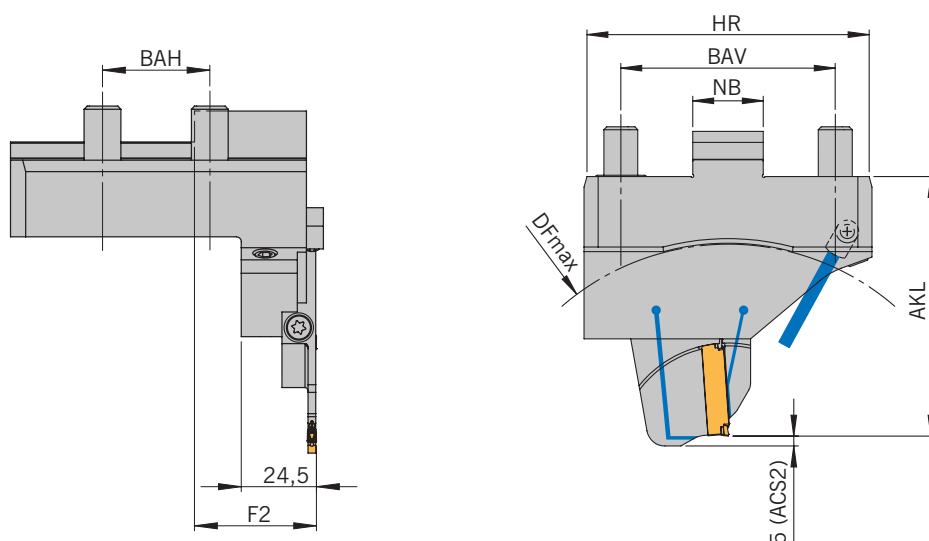
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder		Right-hand holder	
HBSA-65-63-120-L-ACS		HBSA-65-63-R-ACS	
Left module shown	Right module shown	Left module shown	Right module shown
Normal assembly	Normal assembly	Normal assembly	Normal assembly
Upside down assembly	Upside down assembly	Upside down assembly	Upside down assembly

HCMZ-with internal coolant and ACS



Right holder and right module shown

Basic holder

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	HCMZ...	
	AKL	DF_{max}
MSA-...-32-ACS.	76.5 (3.012")	105 (4.134")
MSA-...-44-ACS.	81.5 (3.209")	115 (4.528")
MSA-...-52-ACS.	92.0 (3.622")	135 (5.315")
MSA-...-65-ACS.	92.0 (3.622")	135 (5.315")
MSA-...-69-ACS.	94.0 (3.701")	140 (5.512")
MSA-...-80-ACS.	99.5 (3.917")	150 (5.906")
MSA-...-90-ACS.	104.5 (4.114")	160 (6.299")
MSA-...-105-ACS.	112.5 (4.429")	175 (6.890")

Spare Parts

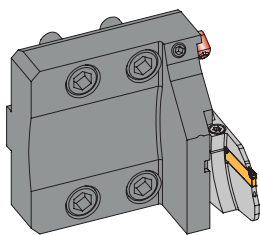
Holder	Screw for module	Key	O-ring	O-ring 2	Coolant jet	Locking pin
HCMZ-35-...-ACS	AS 0070	T5220-IP	OR 2.95X0.79 NBR70	OR 14,82X1,78- NBR70	KMD 0825-3E	ZS0820G

Spare Parts

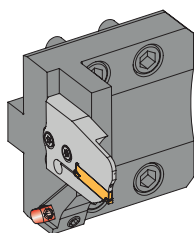
Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Right module shown

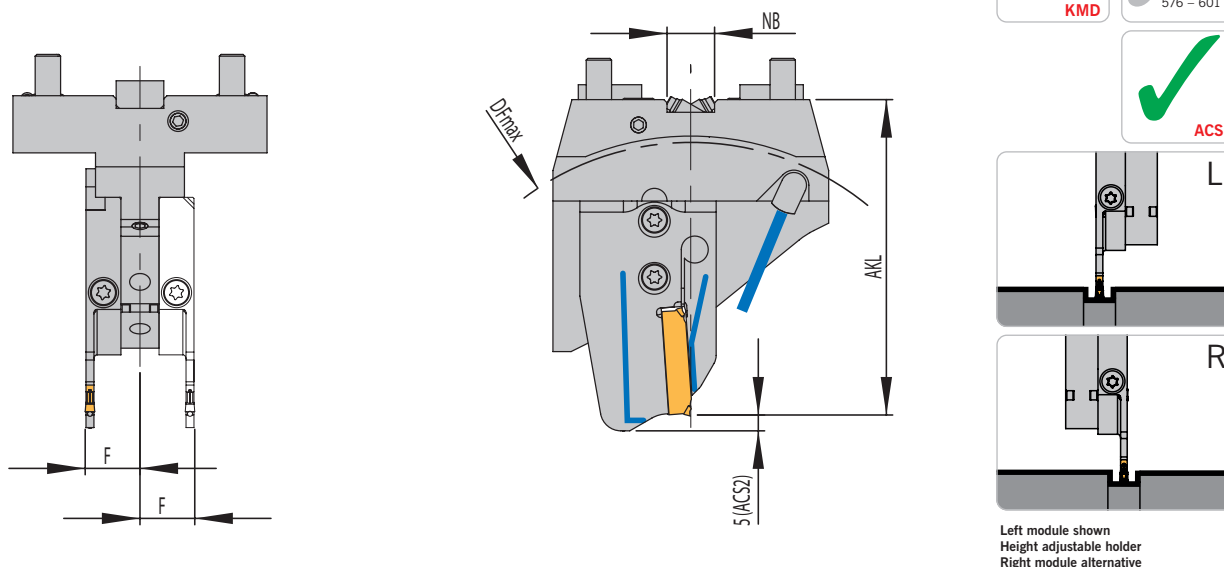


Normal assembly



Upside down assembly

BMT–with internal coolant and ACS



Basic holder

Designation	NB	F	Module	PG 43
HDD-BMT45-SDS-ACS	15 (0.591")	17.3 (0.681")	MSA-...-ACS.	●
HDD-BMT55-SDS-150-ACS ^①	15 (0.591")	17.3 (0.681")	MSA-...-ACS.	●
HDD-BMT55-SDS-ACS	15 (0.591")	17.3 (0.681")	MSA-...-ACS.	●
HDD-BMT65-SDS-ACS	18 (0.709")	17.3 (0.681")	MSA-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-... .

Designation	BMT45...		BMT55...		BMT55...-150		BMT65...	
	AKL	DF_{max}	AKL	DF_{max}	AKL	DF_{max}	AKL	DF_{max}
MSA-...-32-ACS.	84.0 (3.307")	140 (5.512")	114.5 (4.508")	185 (7.283")	134.5 (5.295")	225 (8.858")	131.5 (5.177")	215 (8.465")
MSA-...-44-ACS.	89.0 (3.504")	150 (5.906")	119.5 (4.705")	195 (7.677")	139.5 (5.492")	235 (9.252")	136.5 (5.734")	225 (8.858")
MSA-...-52-ACS.	99.5 (3.917")	170 (6.693")	130.0 (5.118")	215 (8.465")	150.0 (5.901")	255 (10.039")	147.0 (5.787")	245 (9.646")
MSA-...-65-ACS.	99.5 (3.917")	170 (6.693")	130.0 (5.118")	215 (8.465")	150.0 (5.901")	255 (10.039")	147.0 (5.787")	245 (9.646")
MSA-...-69-ACS.	101.5 (3.996")	175 (6.890")	132.0 (5.197")	220 (8.661")	152.0 (5.984")	260 (10.236")	149.0 (5.866")	250 (9.843")
MSA-...-80-ACS.	107.0 (4.213")	185 (7.283")	137.5 (5.413")	230 (9.055")	157.5 (6.201")	270 (10.630")	154.5 (6.083")	260 (10.236")
MSA-...-90-ACS.	112.0 (4.409")	195 (7.677")	142.5 (5.610")	240 (9.449")	162.5 (6.398")	280 (11.024")	159.5 (6.280")	270 (10.630")
MSA-...-105-ACS.	120.0 (4.724")	210 (8.268")	150.5 (5.925")	255 (10.039")	170.5 (6.713")	295 (11.614")	167.5 (6.594")	285 (11.220")

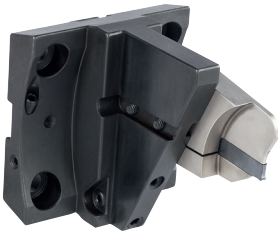
Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet
HDD-BMT45-SDS-ACS	AS 0070	T5220-IP	OR 7X1,5 P	KMD 0825-3E
HDD-BMT55-SDS-ACS	AS 0070	T5220-IP	OR 8X1,5 P	KMD 0825-3E
HDD-BMT65-SDS-ACS	AS 0070	T5220-IP	OR 9X1,5 P	KMD 0825-3E

Spare Parts

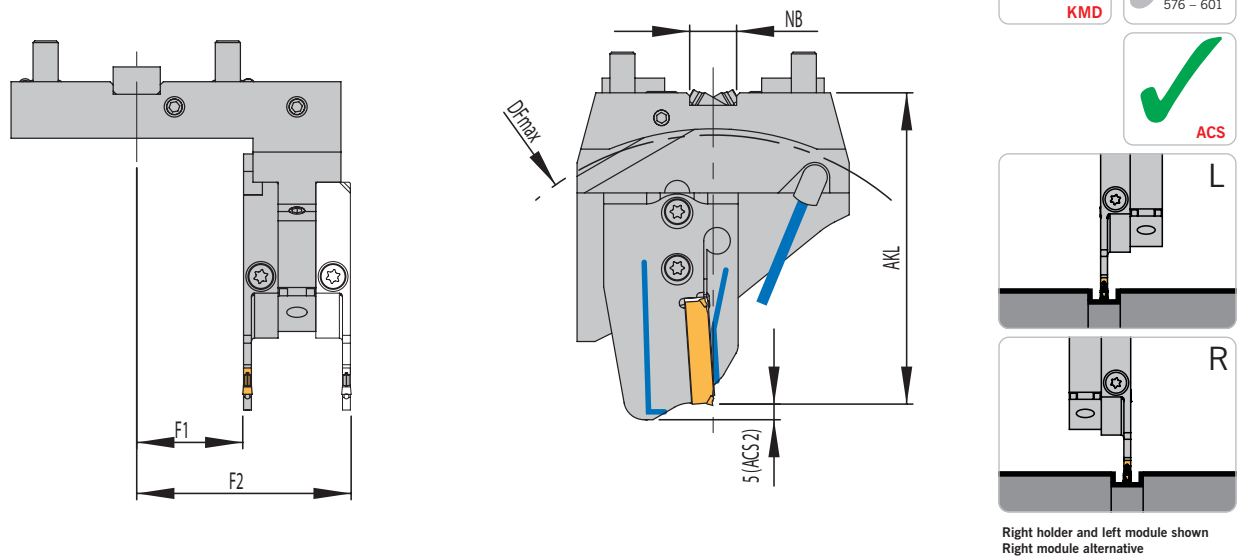
Module	Screw for module	Key
MSA-...	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

Remark: All shown options are available with only one holder.

BMT–with internal coolant and ACS



Basic holder

Designation	NB	F1	F2	Module	PG 43
HDD-BMT45-SD-ACS	15 (0.591")	33,8 (1.331")	68,3 (2.689")	MSA-...-ACS.	●
HDD-BMT55-SD-ACS	15 (0.591")	46,3 (1.823")	80,8 (3.181")	MSA-...-ACS.	●
HDD-BMT55-SDL-ACSØ	15 (0.591")	46,3 (1.823")	80,8 (3.181")	MSA-...-ACS.	●
HDD-BMT55-SD-150-ACS	15 (0.591")	46,3 (1.823")	80,8 (3.181")	MSA-...-ACS.	●
HDD-BMT65-SD-ACS	18 (0.709")	48,4 (1.921")	83,3 (3.280")	MSA-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	BMT45...		BMT55...		BMT55...-150		BMT65...	
	AKL	DF_{max}	AKL	DF_{max}	AKL	DF_{max}	AKL	DF_{max}
MSA-...-32-ACS.	84.0 (3.307")	140 (5.512")	114.5 (4.508")	185 (7.283")	134.5 (5.295")	225 (8.858")	131.5 (5.177")	215 (8.465")
MSA-...-44-ACS.	89.0 (3.504")	150 (5.906")	119.5 (4.705")	195 (7.677")	139.5 (5.492")	235 (9.252")	136.5 (5.734")	225 (8.858")
MSA-...-52-ACS.	99.5 (3.917")	170 (6.693")	130.0 (5.118")	215 (8.465")	150.0 (5.901")	255 (10.039")	147.0 (5.787")	245 (9.646")
MSA-...-65-ACS.	99.5 (3.917")	170 (6.693")	130.0 (5.118")	215 (8.465")	150.0 (5.901")	255 (10.039")	147.0 (5.787")	245 (9.646")
MSA-...-69-ACS.	101.5 (3.996")	175 (6.890")	132.0 (5.197")	220 (8.661")	152.0 (5.984")	260 (10.236")	149.0 (5.866")	250 (9.843")
MSA-...-80-ACS.	107.0 (4.213")	185 (7.283")	137.5 (5.413")	230 (9.055")	157.5 (6.201")	270 (10.630")	154.5 (6.083")	260 (10.236")
MSA-...-90-ACS.	112.0 (4.409")	195 (7.677")	142.5 (5.610")	240 (9.449")	162.5 (6.398")	280 (11.024")	159.5 (6.280")	270 (10.630")
MSA-...-105-ACS.	120.0 (4.724")	210 (8.268")	134.5 (5.295")	255 (10.039")	170.5 (6.713")	295 (11.614")	167.5 (6.594")	285 (11.220")

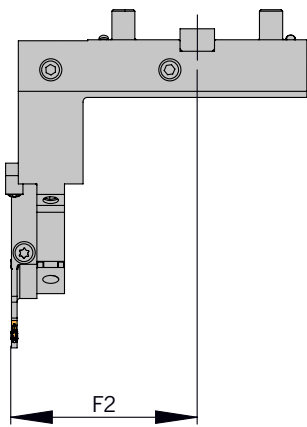
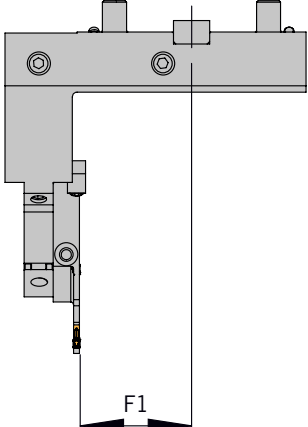
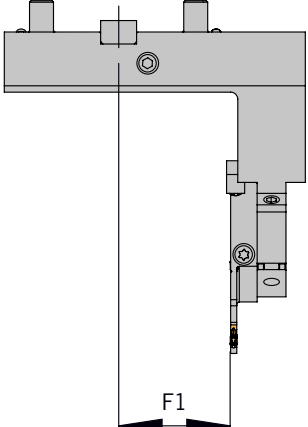
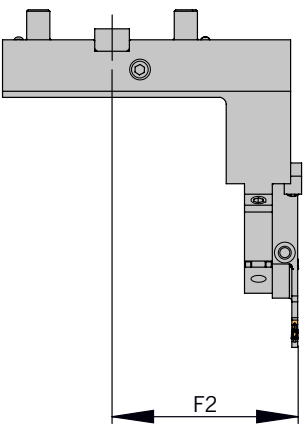
Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet
HDD-BMT45-SD	AS 0070	T5220-IP	OR 7X1,5 P	KMD 0825-3E
HDD-BMT55-SD.	AS 0070	T5220-IP	OR 8X1,5 P	KMD 0825-3E
HDD-BMT65-SD	AS 0070	T5220-IP	OR 9X1,5 P	KMD 0825-3E

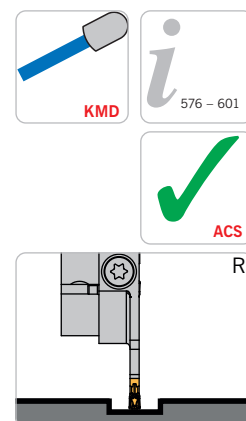
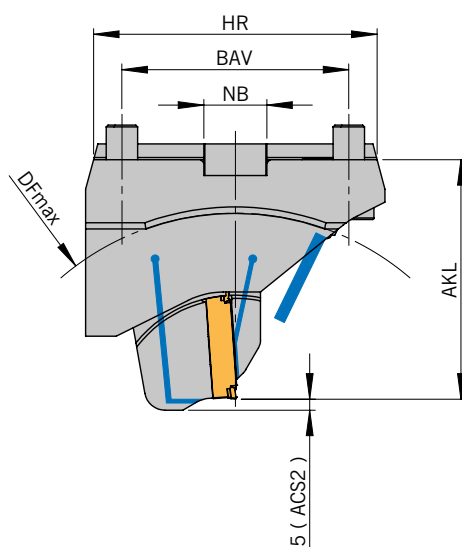
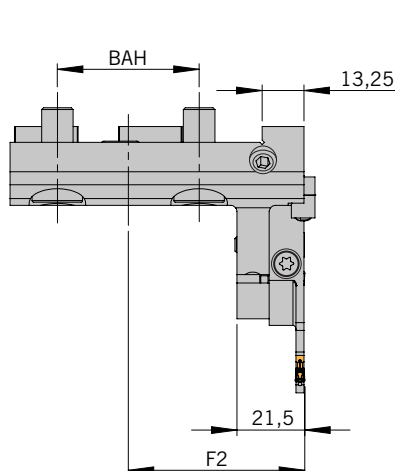
Spare Parts

Module	Screw for module	Key
MSA-...	SA5T	T5220-IP

Assembly options

Left-hand holder		Right-hand holder	
HDD-BMT55-SDL-ACS	HDD-BMT55-SDL-ACS	HDD-BMT45-SD-ACS	HDD-BMT45-SD-ACS
		HDD-BMT55-SD-ACS	HDD-BMT55-SD-ACS
		HDD-BMT55-SD-150-ACS	HDD-BMT55-SD-150-ACS
		HDD-BMT65-SD-ACS	HDD-BMT65-SD-ACS
			
Left module shown	Right module shown	Left module shown	Right module shown
			
Normal assembly	Normal assembly	Normal assembly	Normal assembly
			
Upside down assembly	Upside down assembly	Upside down assembly	Upside down assembly

HDD–with internal coolant and ACS



Right holder and right module shown

Basic holder

Designation	BAH	BAV	HR	NB	F2	Module	PG 43
HDD-45-72-R-MSA-SR-ACS	45 (1.772)	72 (2.834)	90 (3.543)	20 (.787)	56 (2.205)	MSA-SR-...-ACS.	●
HDD-55-80-R-MSA-SR-ACS	55 (2.165)	80 (3.149)	97 (3.819)	20 (.787)	71 (2.795)	MSA-SR-...-ACS.	●

Module

 DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HDD45...		HDD55...	
	AKL	DF_{max}	AKL	DF_{max}
MSA-...-32-ACS.	60.5 (2.382")	85 (3.346")	117.0 (4.606")	180 (7.087")
MSA-...-44-ACS.	65.5 (2.579")	95 (3.740")	122.0 (4.803")	190 (7.480")
MSA-...-52-ACS.	76.0 (2.992")	115 (4.528")	132.5 (5.217")	210 (8.268")
MSA-...-65-ACS.	76.0 (2.992")	115 (4.528")	132.5 (5.217")	210 (8.268")
MSA-...-69-ACS.	78.0 (3.071")	120 (4.724")	134.5 (5.295")	215 (8.465")
MSA-...-80-ACS.	83.5 (3.287")	130 (5.118")	140.0 (5.512")	225 (8.858")
MSA-...-90-ACS.	88.5 (3.484")	140 (5.512")	145.0 (5.709")	235 (9.252")
MSA-...-105-ACS.	96.5 (3.799")	155 (6.102")	153.0 (6.024")	250 (9.843")

Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet	Locking pin
HDD-45-72-R-MSA-SR-ACS	AS 0070	T5220-IP	OR 9X1,5 P	KMD 0820-4BJ	ZS0820G
HDD-55-80-R-MSA-SR-ACS	AS 0070	T5220-IP	OR 22X3,5P	KMD 0820-4BJ	ZS0820G

Spare Parts

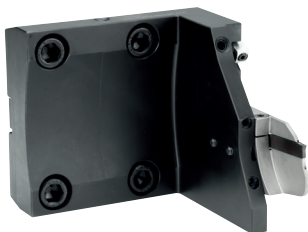
Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Right module shown

HDD-45-72-R-MSA-SR-ACSN

HDD-55-80-R-MSA-SR-ACS



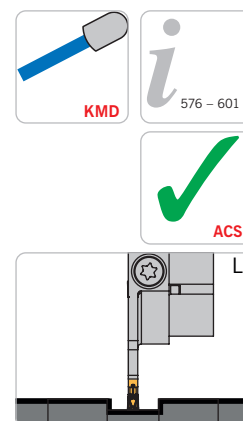
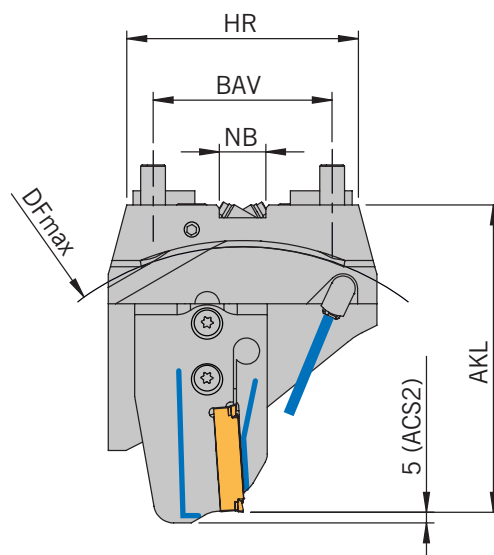
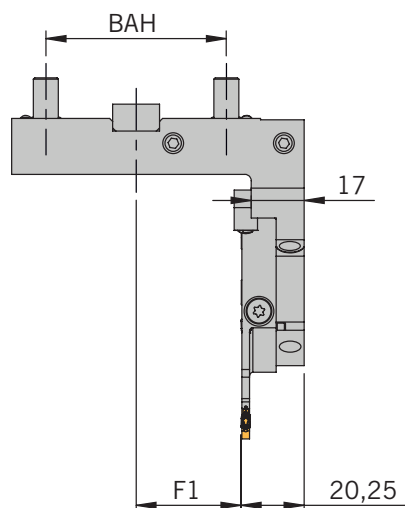
Normal assembly



Upside down assembly

Remark: All shown options are available with only one holder.

BMT-with internal coolant and ACS



und
 Halter höhenstellbar
 Right holder and left module shown
 Height adjustable holder
 e
 Adattatore registrabile in altezza

Basic holders

Designation	BAH	BAV	HR	NB	F1	Module	PG 43
HDD-58-58-R-MSA-SL-ACS	58 (2.283)	58 (2.283)	75 (2.953)	12 (.472)	33.8 (1.331)	MSA-SL-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	HDD58...	
	AKL	DF_{max}
MSA-...-32-ACS.	84.0 (3.307")	140 (5.512")
MSA-...-44-ACS.	89.0 (3.504")	150 (5.906")
MSA-...-52-ACS.	99.5 (3.917")	170 (6.693")
MSA-...-65-ACS.	99.5 (3.917")	170 (6.693")
MSA-...-69-ACS.	101.5 (3.996")	175 (6.890")
MSA-...-80-ACS.	107.0 (4.213")	185 (7.283")
MSA-...-90-ACS.	112.0 (4.409")	195 (7.677")
MSA-...-105-ACS.	120.0 (4.724")	210 (8.268")

Spare Parts

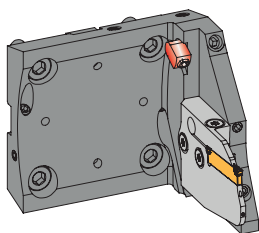
Holder	Screw for module	Key	O-ring	Coolant jet
HDD-58-58-R-MSA-SL-ACS	AS 0070	T5220-IP	OR 7X1,5 P	KMD 0820-4BJ

Ersatzteile / Spare Parts / Ricambi

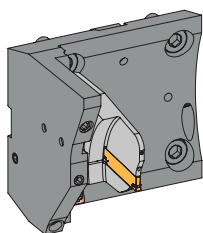
Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left module shown

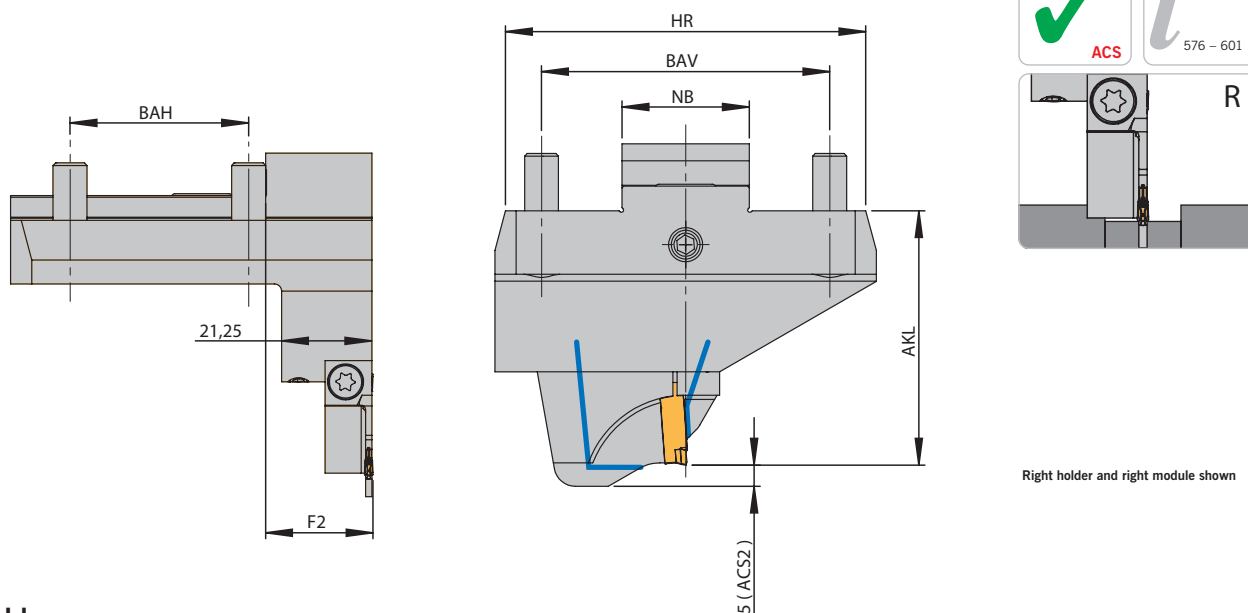


Normal assembly



Upside down assembly

HHAR–with ACS



Basic holder

Designation	BAH	BAV	HR	NB	F2	Module	PG 43
HHAR-42-68-R-MSA-SR-ACS	42 (1.654")	68 (2.677")	85 (3.346")	30 (1.181")	25,3 (0.996")	MSA-SR-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	HHAR...	
	AKL	DF_{max}
MSA-...-32-ACS.	60.0 (2.362")	85 (3.346")
MSA-...-44-ACS.	65.0 (2.559")	95 (3.740")
MSA-...-52-ACS.	75.5 (2.972")	115 (4.528")
MSA-...-65-ACS.	75.5 (2.972")	115 (4.528")
MSA-...-69-ACS.	77.5 (3.051")	120 (4.724")
MSA-...-80-ACS.	83.0 (3.268")	130 (5.118")
MSA-...-90-ACS.	88.0 (3.465")	140 (5.512")
MSA-...-105-ACS.	96.0 (3.780")	155 (6.102")

Spare Parts

Holder	Screw for module	Key	O-ring
HHAR-42-68-R-MSA-SR-ACS	SA5T	T5220-IP	OR 10,82X1,78P

Spare Parts

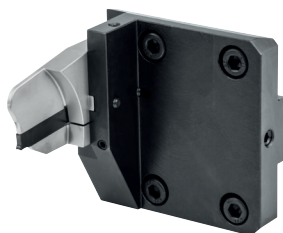
Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Right module shown

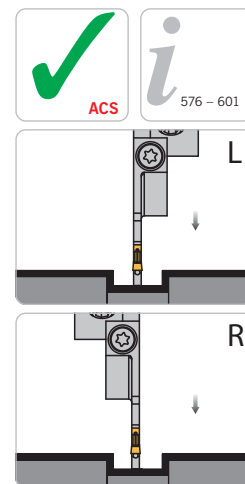
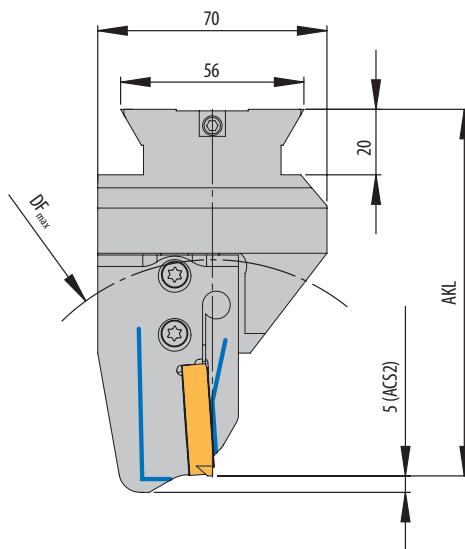
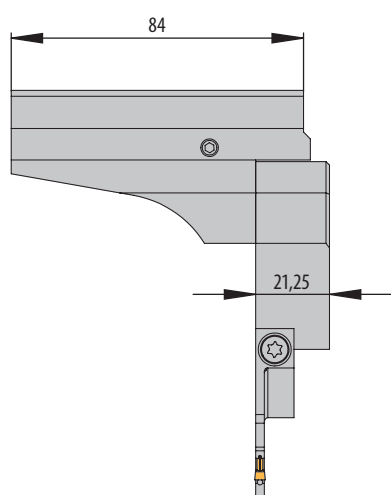


Normal assembly



Upside down assembly

HABC...-with internal coolant and ACS



Right holder and left module shown
Height adjustable holder

Basic holder

Designation	F1	F2	Module	PG 43
HABC-R-7-MSA-SL-ACS	21,5 (0.846")	-	MSA-SL...-ACS.	●
HABC-R-7-MSA-SR-ACS	-	21,5 (0.846")	MSA-SR...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA...

Designation	HABC...	
	AKL	DF_{max}
MSA-...-32-ACS.	96.5 (3.799")	100 (3.937")
MSA-...-44-ACS.	101.5 (3.996")	110 (4.331")
MSA-...-52-ACS.	112.0 (4.409")	130 (5.118")
MSA-...-65-ACS.	112.0 (4.409")	130 (5.118")
MSA-...-69-ACS.	114.0 (4.488")	135 (5.315")

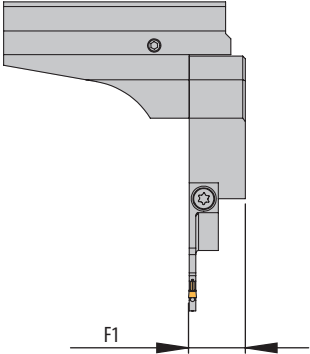
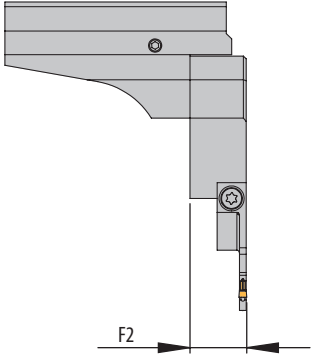
Ersatzteile / Spare Parts / Ricambi

Module	Screw for module	Key
HABC-R-7-MSA...-ACS	AS 0070	T5220-IP

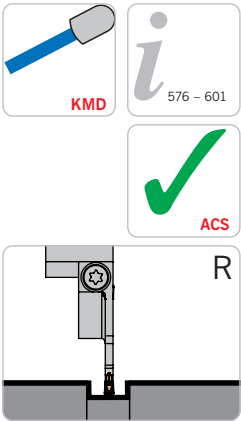
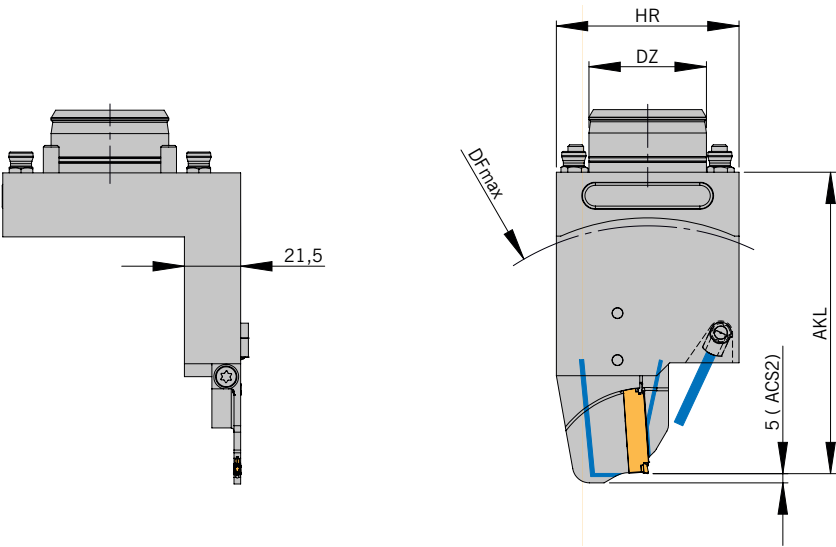
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Right-hand holder	
HABC-R-7-MSA-SL-ACS	HABC-R-7-MSA-SR-ACS
	
Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

HTR45-with internal coolant



Right holder and right module shown

Basic holder

Designation	DZ	F2	HR	Module	PG 43
HTR45-R-W7040135-MSA-SR-ACS	45 (1.772")	50,3 (1.980")	70 (2.756")	MSA-SR-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	HTR45 für TNK42 HTR45 for TNK42 HTR45 per TNK42		HTR45 für TNK65/ABC65 HTR45 for TNK65/ABC65 HTR45 per TNK65/ABC65	
	AKL	DF _{max}	AKL	DF _{max}
MSA-...-44-ACS.	105 (4.134")	170 (6.693")	-	-
MSA-...-65-ACS	-	-	115.5 (4.547")	185 (7.283")

Spare Parts

Holder	Screw for module	Key	Coolant jet	Locking pin
HTR45-R-...-MSA-...	AS 0070	T5220-IP	KMD 0820-4BJ	ZS0820G

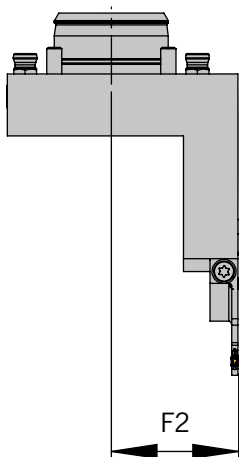
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Right-hand holder

HTR45-R-W7040135-MSA-SR-ACS



Right module shown

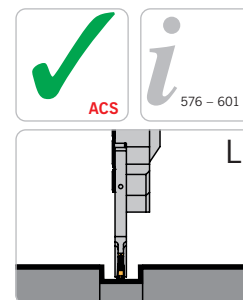
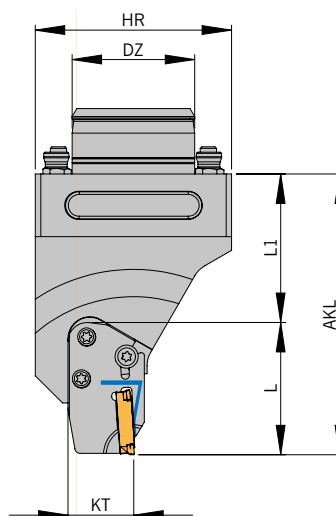
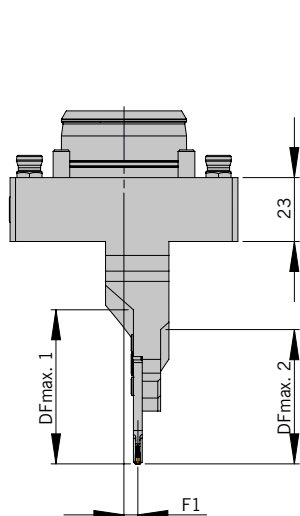


Normal assembly



Upside down assembly

HTR45-with internal coolant



Left module shown

Basic holder

Designation	DZ	F1	HR	KT	Module	PG 43
HTR45-R-W7040134-MSA-IL-ACS	45 (1.772")	5 (0.197")	72.0 (2.835")	24 (0.945")	MSA-IL-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	HTR45 für TNL18 HTR45 for TNL18 HTR45 per TNL18			HTR45 für TNL32 HTR45 for TNL32 HTR45 per TNL32		
	AKL	$DF_{max} 1$	$DF_{max} 2$	AKL	$DF_{max} 1$	$DF_{max} 2$
MSA-IL-SA2402-L48,5-20-ACS.	103.0 (4.055")	110 (4.331")	95 (3.740")	-	-	-
MSA-IL-SA2402-L56,0-32-ACS1	-	-	-	110.5 (4.350")	120 (4.724")	105 (4.134")

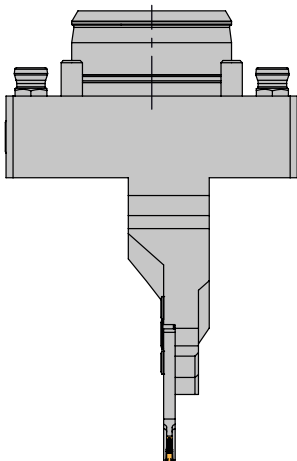
Spare Parts

Holder	Screw for module	Key
HTR45-R-...-MSA-IL-ACS	2x AS0049 / 1x AS0050*	T5120-IP

Assembly options

Right-hand holder

HTR45-R-W7040134-MSA-IL-ACS



Left module shown

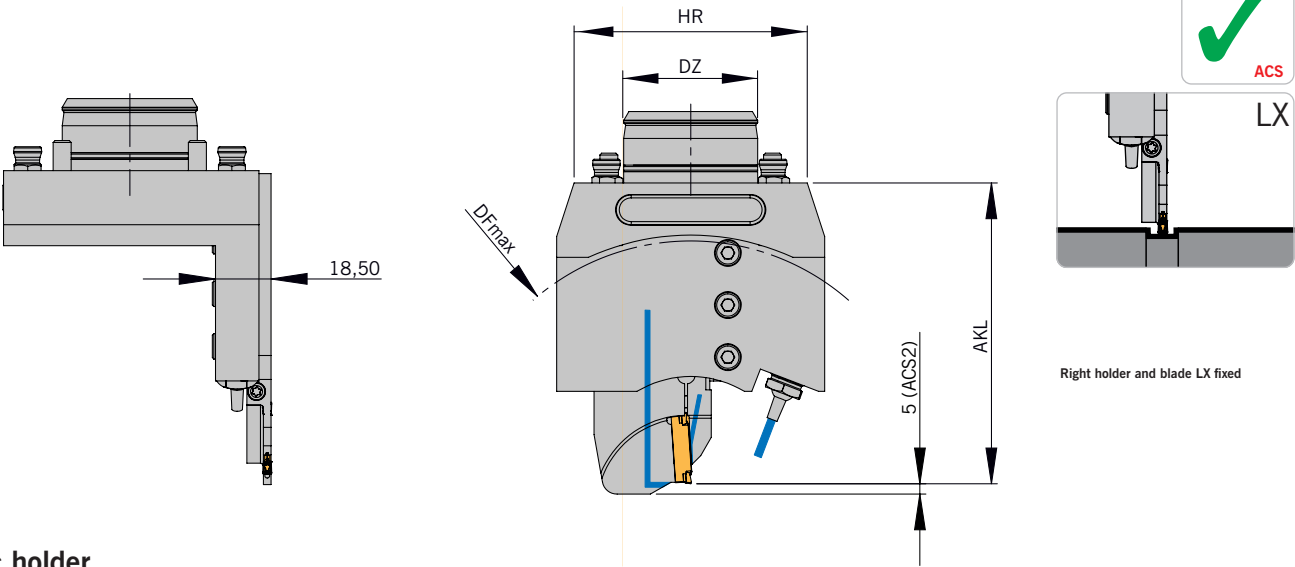


Normal assembly



Upside down assembly

HTR45-with internal coolant and ACS for KSA blades



Basic holder

Designation	DZ	F2	HR	Module	PG 43
HTR45-R-W7040098-KSA-32LX-ACS	45 (1.772")	47,3 (1.862")	78.3 (3.083")	KSA-TR-3208LX-...-ACS.	●

Part-off blade

DF_{max} = maximum chuck diameter and AKL = Overhang length with blades KSA-..

Designation	HTR45	
	AKL	DF _{max}
KSA-TR-3208LX-SA2403-44-ACS2	101 (3.976")	160 (6.299")
KSA-TR-3208LX-SA3503-65-ACS2	111 (4.370")	180 (7.087")

Spare Parts

Holder	Clamping strip	Clamping strip 2	O-ring	O-ring 2
HTR45-R-...-KSA-...	60AB3444	W67310.0624	OR 18 (0.709"),77X1,78 P	OR 40X1,6 P

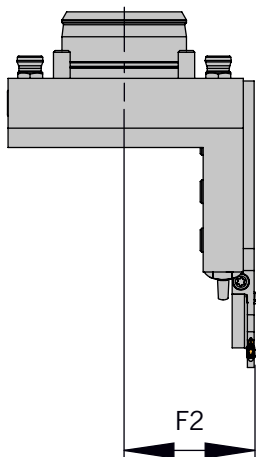
Spare Parts

Blade	Span screw for clamp	Key
KSA-TR-3208LX-...	AS 0022	T5215-IP

Assembly options

Right-hand holder

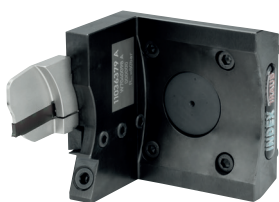
HTR45-R-W7040098-KS-32LX-ACS



Klinge LX montiert
Blade LX shown
Lama LX in figura

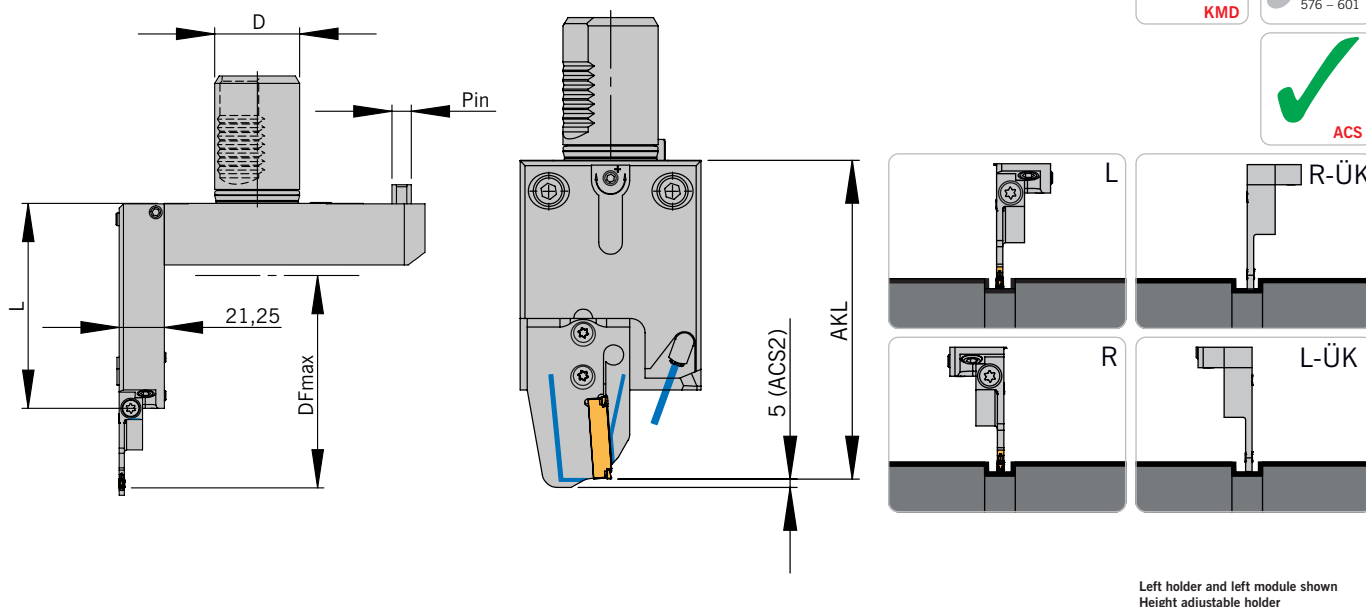


Normal assembly



Upside down assembly

HMAZ–with internal coolant and ACS



Basic holder

Designation	D	L	Pin	F1	F2	Module	PG 43
HMAZ40L-A1-7-44-MSA-SR-SQT10-ACS	40 (1.575")	96,5 (3.799")	16 (0.630")	43.6 (1.717")	-	MSA-SR-...ACS.	●
HMAZ40L-A1-7-65-MSA-SL-SQT10-ACS	40 (1.575")	96,5 (3.799")	16 (0.630")	-	65.3 (2.571")	MSA-SL-...ACS.	●
HMAZ40L-A1-7-65-MSA-SR-ÜK-SQT10-ACS	40 (1.575")	96,5 (3.799")	16 (0.630")	-	65.3 (2.571")	MSA-SR-...ACS.	●
HMAZ40L-A1-7-78-MSA-SR-ÜK-SQT15-ACS	40 (1.575")	132.5 (5.217")	20 (0.787")	-	78.3 (3.083")	MSA-SR-...ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HMAZ40...-SQT10		HMAZ40...-SQT15	
	AKL	DF_{max}	AKL	DF_{max}
MSA-...-32-ACS.	118.5 (4.665")	185 (7.283")	154.5 (6.083")	255 (10.039")
MSA-...-44-ACS.	123.5 (4.862")	195 (7.677")	159.5 (6.280")	260 (10.236")
MSA-...-52-ACS.	134.0 (5.276")	215 (8.465")	170.0 (6.693")	280 (11.024")
MSA-...-65-ACS.	134.0 (5.276")	215 (8.465")	170.0 (6.693")	280 (11.024")
MSA-...-69-ACS.	136.0 (5.354")	220 (8.661")	172.0 (6.772")	285 (11.220")
MSA-...-80-ACS.	141.5 (5.571")	230 (9.055")	177.5 (6.988")	295 (11.614")
MSA-...-90-ACS.	146.5 (5.768")	240 (9.449")	182.5 (7.185")	305 (12.008")
MSA-...-105-ACS.	154.5 (6.083")	255 (10.039")	190.5 (7.500")	320 (12.598")

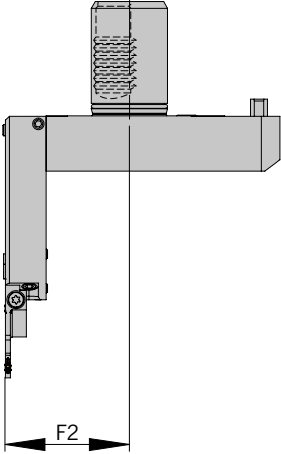
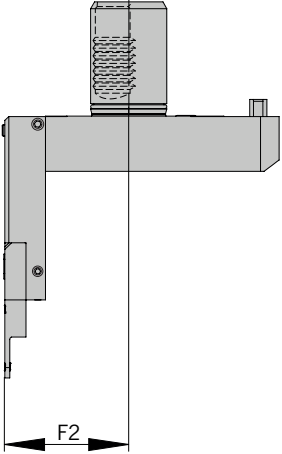
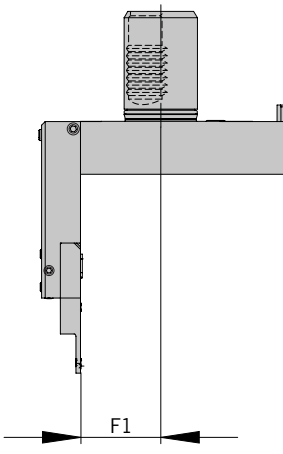
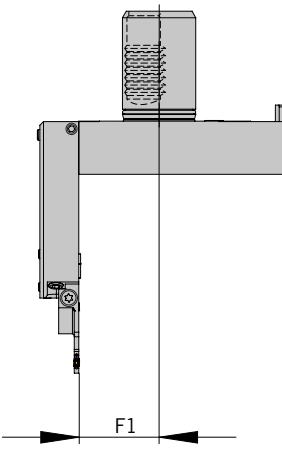
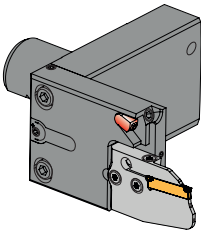
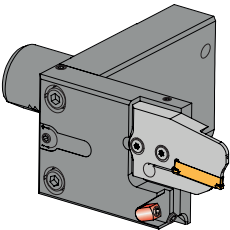
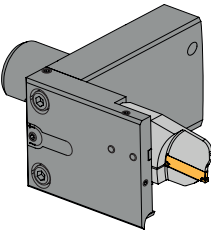
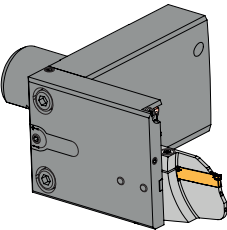
Spare Parts

Holder	Screw for module	Key	Coolant jet	Locking pin
HMAZ40L-..	AS 0070	T5220-IP	KMD 0820-4BJ	ZS0820G

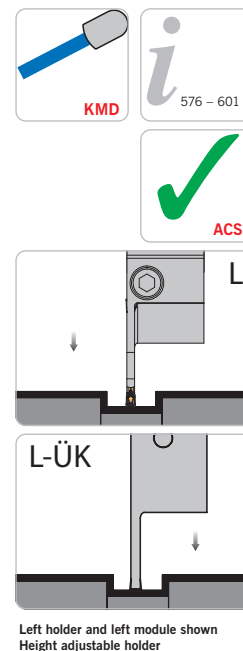
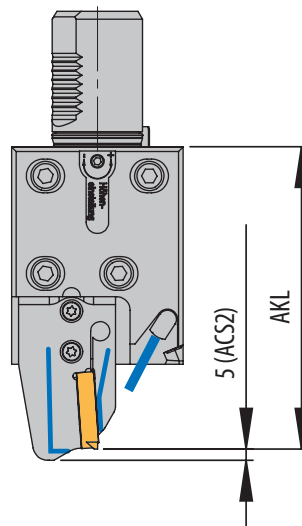
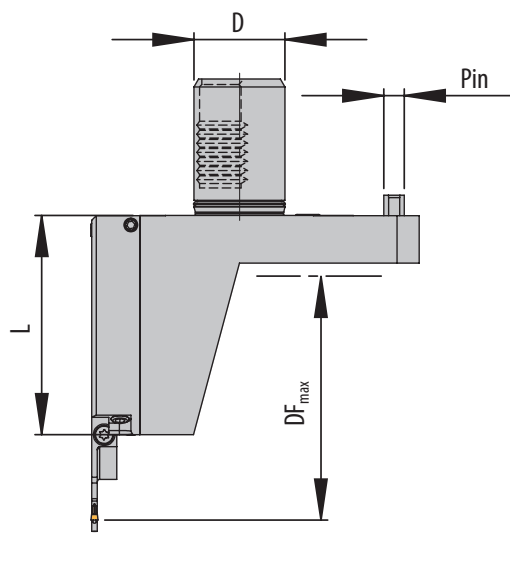
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder			
HMAZ40L-A1-7-65-MSA-SL-SQT10-ACS	HMAZ40L-A1-7-65-MSA-SR-ÜK-SQT10-ACS	HMAZ40L-A1-7-44-MSA-SR-SQT10-ACS	HMAZ40L-A1-7-78-MSA-SR-ÜK-SQT15-ACS
HMAZ40L-A1-7-78-MSA-SL-SQT15-ACS	HMAZ40L-A1-7-78-MSA-SR-ÜK-SQT15-ACS		
			
Left module shown	Right module shown	Left module shown	Right module shown
			
Normal assembly	Upside down assembly	Upside down assembly	Normal assembly

HMAZ–with internal coolant and ACS



Left holder and left module shown
Height adjustable holder

Basic holder

Designation	D	L	Pin	F2	Module	PG 43
HMAZ40L-7-65-MSA-SL-SQT10-IK	40 (1.575")	96,5 (3.799")	16 (0.630")	65.3 (2.571")	MSA-SL-...ACS.	●
HMAZ40L-7-65-MSA-SR-ÜK-SQT10-IK	40 (1.575")	96,5 (3.799")	16 (0.630")	65.3 (2.571")	MSA-SR-...ACS.	●
HMAZ40L-7-78-MSA-SL-SQT15-IK	40 (1.575")	132.5 (5.217")	20 (0.787")	78.3 (3.083")	MSA-SL-...ACS.	●
HMAZ40L-7-78-MSA-SR-ÜK-SQT15-IK	40 (1.575")	132.5 (5.217")	20 (0.787")	78.3 (3.083")	MSA-SR-...ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	HMAZ40-7-65...		HMAZ40-7-78...	
	AKL	DF _{max}	AKL	DF _{max}
MSA-...-32-ACS.	118.5 (4.665")	190 (7.480")	154.5 (6.083")	245 (9.646")
MSA-...-44-ACS.	123.5 (4.862")	200 (7.874")	159.5 (6.280")	255 (10.039")
MSA-...-52-ACS.	134.0 (5.276")	220 (8.661")	170.0 (6.693")	275 (10.827")
MSA-...-65-ACS.	134.0 (5.276")	220 (8.661")	170.0 (6.693")	275 (10.827")
MSA-...-69-ACS.	136.0 (5.354")	225 (8.858")	172.0 (6.772")	280 (11.024")
MSA-...-80-ACS.	141.5 (5.571")	235 (9.252")	177.5 (6.988")	290 (11.417")
MSA-...-90-ACS.	146.5 (5.768")	245 (9.646")	182.5 (7.185")	300 (11.811")
MSA-...-105-ACS.	154.5 (6.083")	260 (10.236")	190.5 (7.500")	315 (12.402")

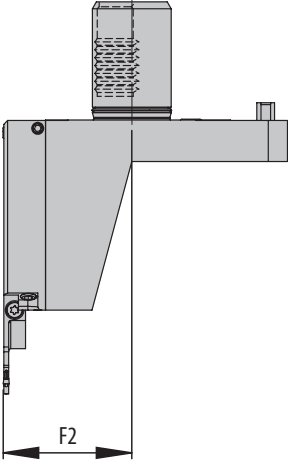
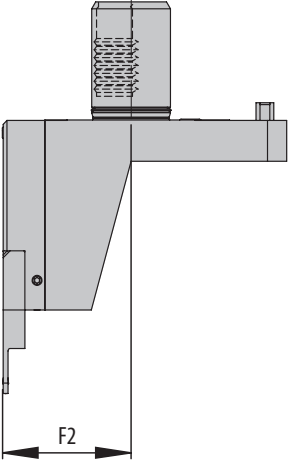
Spare Parts

Holder	Screw for module	Key	Coolant jet	Locking pin
HMAZ40L-..	AS 0070	T5220-IP	KMD 0820-4BJ	ZS0820G

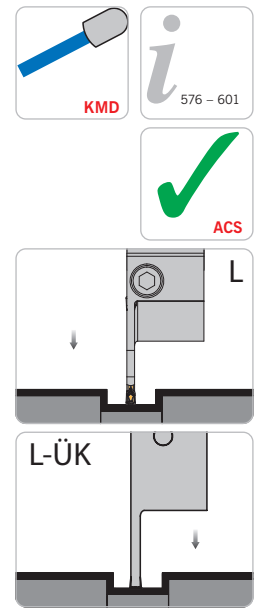
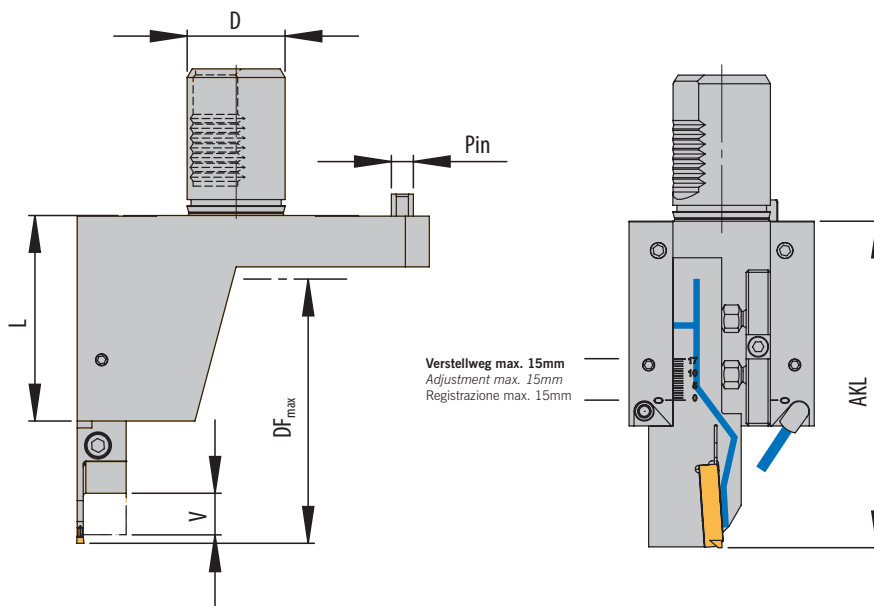
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder	
HMAZ40L-7-65-MSA-SL-SQT10-IK	HMAZ40L-7-65-MSA-SR-ÜK-SQT10-IK
HMAZ40L-7-78-MSA-SL-SQT15-IK	HMAZ40L-7-78-MSA-SR-ÜK-SQT15-IK
	
Left module shown	Left module shown
	
Normal assembly	Upside down assembly

HMAZ–with internal coolant and ACS



Left basic holder and left monoblock holder shown

Basic holder

Designation	D	L	Pin	F2	Monoblock holder	PG 43
HMAZ-4020L-SQT10-IK	40 (1.575")	84 (3.307")	16 (0.630")	65.3 (2.571")	HSA/HSE 2020L-...ACS1-UN	●
HMAZ-4020L-ÜK-SQT10-IK	40 (1.575")	84 (3.307")	16 (0.630")	65.3 (2.571")	HSA/HSE 2020R-...ACS1-UN	●
HMAZ-4025L-SQT15-IK	40 (1.575")	120 (4.724")	20 (0.787")	78.3 (3.083")	HSA/HSE 2525L-...ACS1-UN	●
HMAZ-4025L-ÜK-SQT15-IK	40 (1.575")	120 (4.724")	20 (0.787")	78.3 (3.083")	HSA/HSE 2525R-...ACS1-UN	●

Monoblock holder

DF_{max} = maximum chuck diameter and AKL = Overhang length with Monoblock holder HSA/HSE

Designation	HMAZ-4020...			HMAZ-4025...		
	AKL	V*	$DF_{max}^{1)}$	AKL	V*	$DF_{max}^{2)}$
HSE...SE24..	108.5 (4.272")	17 (0.669")	170 (6.693")	144.0 (5.669")	22 (0.866")	220 (8.661")
HSE...SE24..	117.5 (4.626")	17 (0.669")	185 (7.283")	151.0 (5.945")	22 (0.866")	235 (9.252")
HSA...SA24...44-ACS1-UN	118.0 (4.646")	17 (0.669")	190 (7.480")	151.5 (5.965")	22 (0.866")	235 (9.252")
HSA...SA35...52-ACS1-UN	128.0 (5.039")	17 (0.669")	210 (8.268")	164.0 (6.457")	22 (0.866")	260 (10.236")
HSA...SA35...65-ACS1-UN	134.0 (5.276")	17 (0.669")	220 (8.661")	170.0 (6.693")	22 (0.866")	275 (10.827")

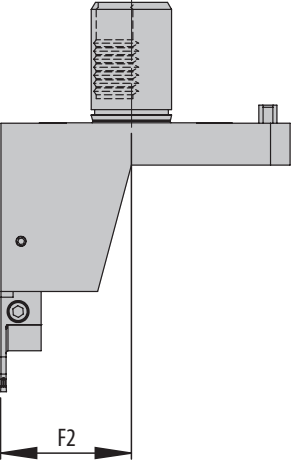
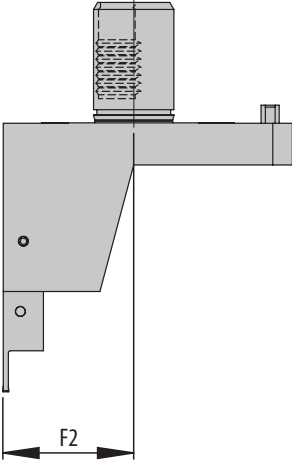
Spare Parts

Holder	Screw for module	Coolant jet	Locking pin
HMAZ-4020L-SQT10-IK	G111	KMD 0820-4BJ	ZS0820G
HMAZ-4020L-ÜK-SQT10-IK	G111	KMD 0820-4BJ	ZS0820G
HMAZ-4025L-SQT15-IK	G104	KMD 0820-4BJ	ZS0820G
HMAZ-4025L-ÜK-SQT15-IK	G104	KMD 0820-4BJ	ZS0820G

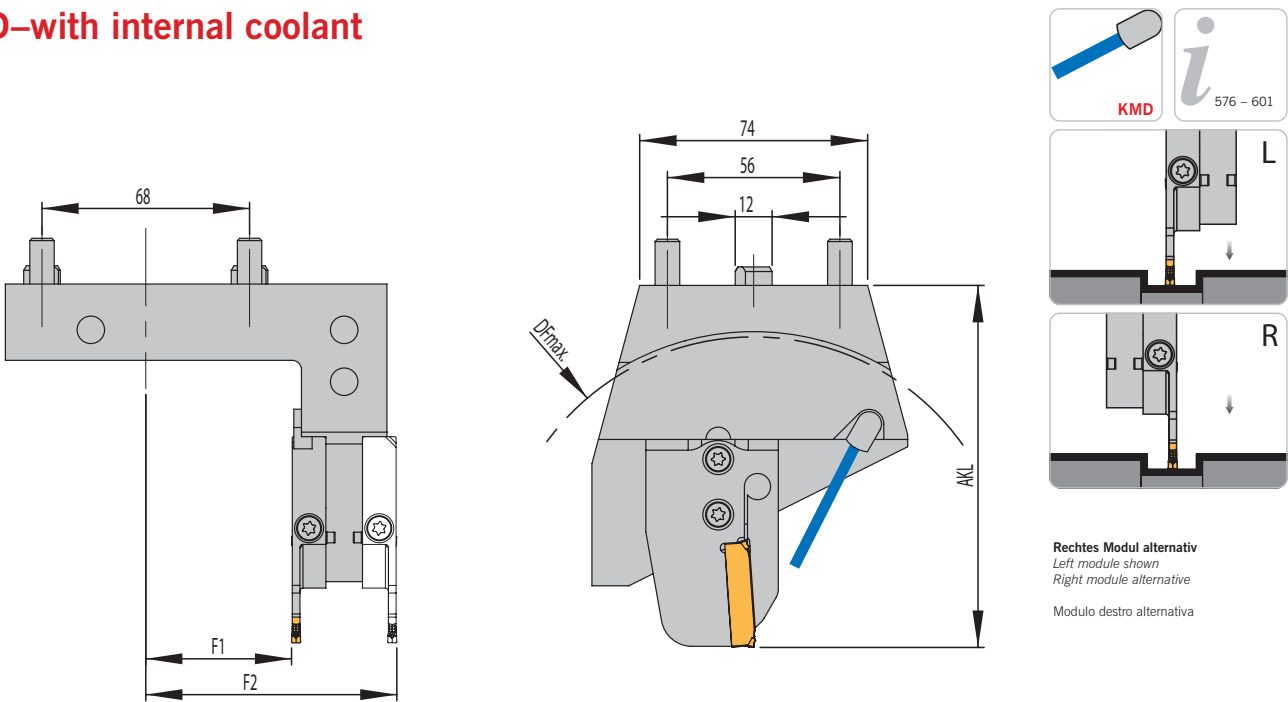
Spare Parts

Monoblock holder	Screw	Key
HSA/HSE 2020...HSA/HSE 2525...SA35...52-ACS1-UN	DIN912 M6X20-12.9	KP 1321
HSA/HSE 2020...HSA/HSE 2525...SA24...44-ACS1-UN	DIN912 M5X16-12.9	KP 5421
HSA/HSE 2020...HSA/HSE 2525...SA35...65-ACS1-UN	DIN912 M6X20-12.9	KP 5421

Assembly options

Left-hand holder	
HMAZ-4020L-SQT10-IK	HMAZ-4020L-ÜL-SQT10-IK
HMAZ-4025L-SQT15-IK	HMAZ-4025L-ÜK-SQT15-IK
	
<i>Linker Monoblockhalter montiert</i> Left Monoblock holder shown <i>Utensili monoblocco sinistro in figura</i>	<i>Linker Monoblockhalter montiert</i> Left Monoblock holder shown <i>Utensili monoblocco sinistro in figura</i>
	
Normal assembly	Upside down assembly

HMD–with internal coolant



Basic holder

Designation	F1	F2	Module	PG 43
HMD-BMT-SD	47,8 (1.882")	82,3 (3.240")	MSA-...-...	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HMD-BMT...	
	AKL	DF_{max}
MSA-...-32	102.0 (4.106")	165 (6.496")
MSA-...-44	107.0 (4.213")	175 (6.890")
MSA-...-52	117.5 (4.626")	195 (7.677")
MSA-...-65	117.5 (4.626")	195 (7.677")
MSA-...-80	125.0 (4.921")	210 (8.268")
MSA-...-105	138.0 (5.433")	235 (9.252")
MSA-...-125	148.0 (5.827")	250 (9.843")
MSA-...-140	155.5 (6.122")	265 (10.433")

Spare Parts

Holder	I Screw for module	Key	Coolant jet
HMD-BMT-SD	AS 0070	T5220-IP	KMD 0825-3E

Spare Parts

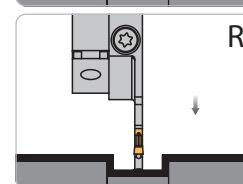
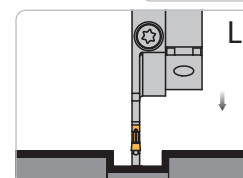
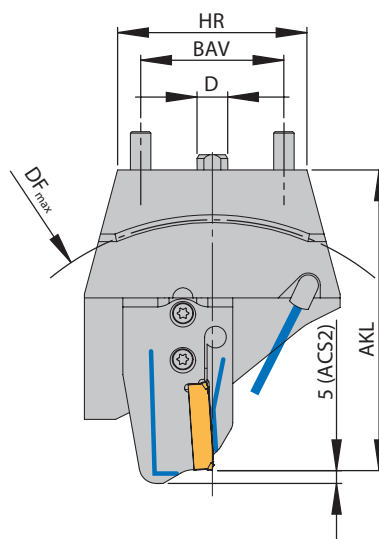
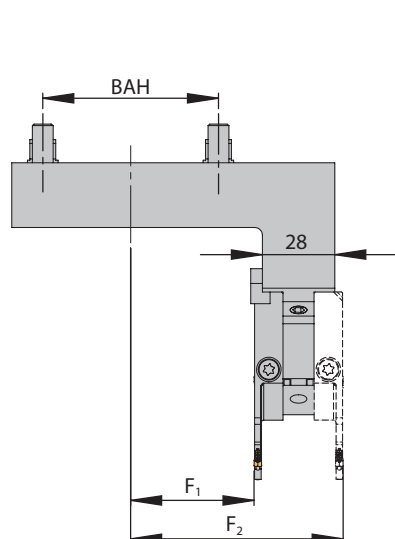
Modul Module Modulo	Schraube für Modul Screw for module Vite per modulo	Schlüssel Key Chiave
MSA-...-	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

HMD / HMSA–with internal coolant and ACS

Basic holders–modules can be mounted on both sides

Right holder and left module shown
Right module alternative

Basic holder

Designation	BAH	BAV	HR	D	F1	F2	Module	PG 43
HMD-BMT-SDR-ACS	56 (2.205")	52 (2.047")	74 (2.913")	12 (0.472")	47.8 (1.882")	82,3 (3.240")	MSA-...-ACS.	●
HMSA-68-56-R-ACS	68 (2.677")	56 (2.205")	74 (2.913")	12 (0.472")	47.8 (1.882")	82,3 (3.240")	MSA-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	HMSA / HMD...	
	AKL	DF _{max}
MSA-...-32-ACS.	102.0 (4.106")	165 (6.496")
MSA-...-44-ACS.	107.0 (4.213")	175 (6.890")
MSA-...-52-ACS.	117.5 (4.626")	195 (7.677")
MSA-...-65-ACS.	117.5 (4.626")	195 (7.677")
MSA-...-69-ACS.	119.5 (4.705")	200 (7.874")
MSA-...-80-ACS.	125.0 (4.921")	210 (8.268")
MSA-...-90-ACS.	130.0 (5.118")	220 (8.661")
MSA-...-105-ACS.	138.0 (5.433")	230 (9.055")

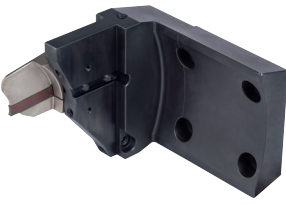
Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet	Locking pin
HMD-BMT-SDR-ACS	AS 0070	T5220-IP	OR 14X1,5P	KMD 0825-3E	ZS0818
HMSA-68-56-R-ACS	AS 0070	T5220-IP	OR 14X1,5P	KMD 0825-3E	ZS0818

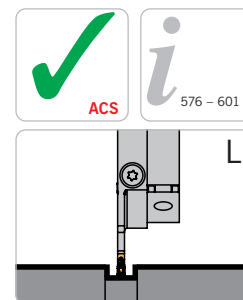
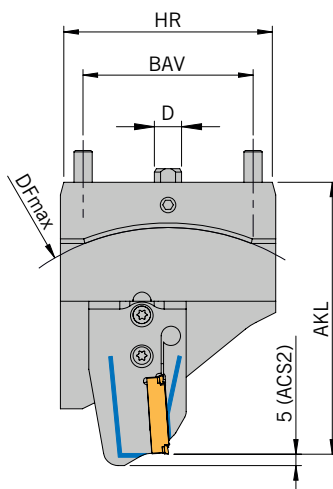
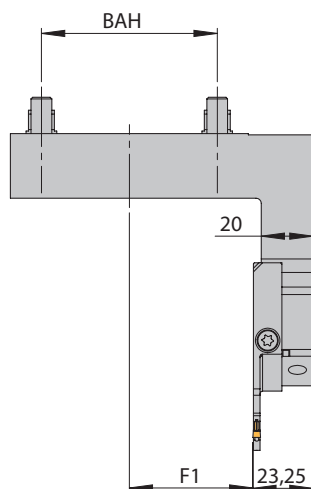
Spare Parts

Modul Module Modulo	Schraube für Modul Screw for module Vite per modulo	Schlüssel Key Chiave
MSA-...-	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

HMSA–with ACS



Right holder and left module shown

Basic holder

Designation	BAH	BAV	HR	D	F1	Module	PG 43
HMSA-60-75-R-MSA-SL-ACS	60 (2.362")	75 (2.953")	92 (3.622")	12 (0.472")	47.8 (1.882")	MSA-SL-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HMSA...	
	AKL	DF_{max}
MSA-...-32-ACS.	104.5 (4.114")	165 (6.496")
MSA-...-44-ACS.	109.5 (4.311")	175 (6.890")
MSA-...-52-ACS.	120.0 (4.724")	200 (7.874")
MSA-...-65-ACS.	120.0 (4.724")	200 (7.874")
MSA-...-69-ACS.	122.0 (4.803")	200 (7.874")
MSA-...-80-ACS.	127.5 (5.020")	210 (8.268")
MSA-...-90-ACS.	132.5 (5.217")	220 (8.661")
MSA-...-105-ACS.	140.5 (5.531")	235 (9.252")

Spare Parts

Holder	Screw for module	Key	O-ring
HMSA-60-75-R-MSA-SL-ACS	AS 0070	T5220-IP	OR 14X1,5P

Spare Parts

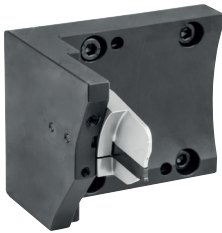
Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left module shown



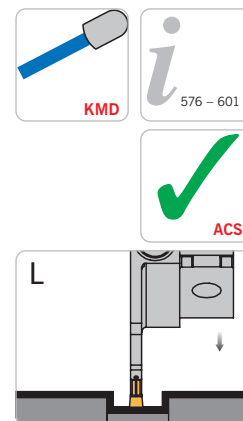
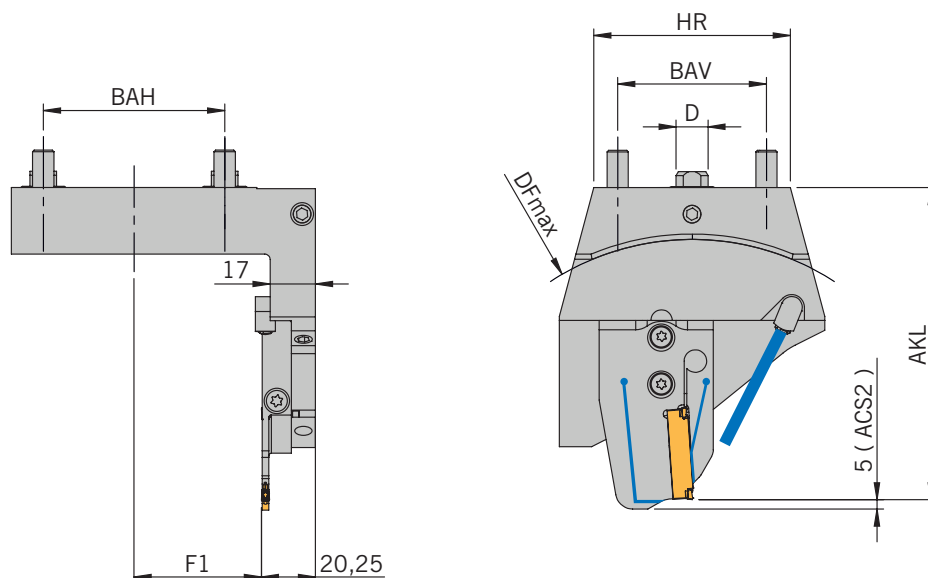
Normal assembly



Upside down assembly

HMSA—with internal coolant and ACS

Holder with more space for parting on the counter spindle



Right holder and left module shown

Basic holder

Designation	BAH	BAV	HR	D	F1	Module	PG 43
HMSA-68-56-R-MSA-SL-ACS-S01	68 (2.677")	56 (2.205")	74 (2.913")	12 (0.472")	47.8 (1.882")	MSA-SL-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HMSA...	
	AKL	DF_{max}
MSA-...-32-ACS.	102.0 (4.106")	165 (6.496")
MSA-...-44-ACS.	107.0 (4.213")	175 (6.890")
MSA-...-52-ACS.	117.5 (4.626")	195 (7.677")
MSA-...-65-ACS.	117.5 (4.626")	195 (7.677")
MSA-...-69-ACS.	119.5 (4.705")	200 (7.874")
MSA-...-80-ACS.	125.0 (4.921")	210 (8.268")
MSA-...-90-ACS.	130.0 (5.118")	215 (8.465")
MSA-...-105-ACS.	138.0 (5.433")	230 (9.055")

Spare Parts

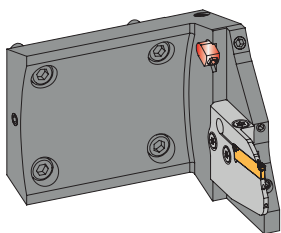
Holder	Screw for module	Key	O-ring	Coolant jet
HMSA-68-56-R-MSA-SL-ACS-S01	AS 0070	T5220-IP	OR 14X1,5P	KMD 0820-4BJ

Spare Parts

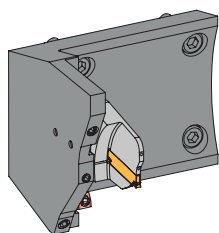
Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left module shown



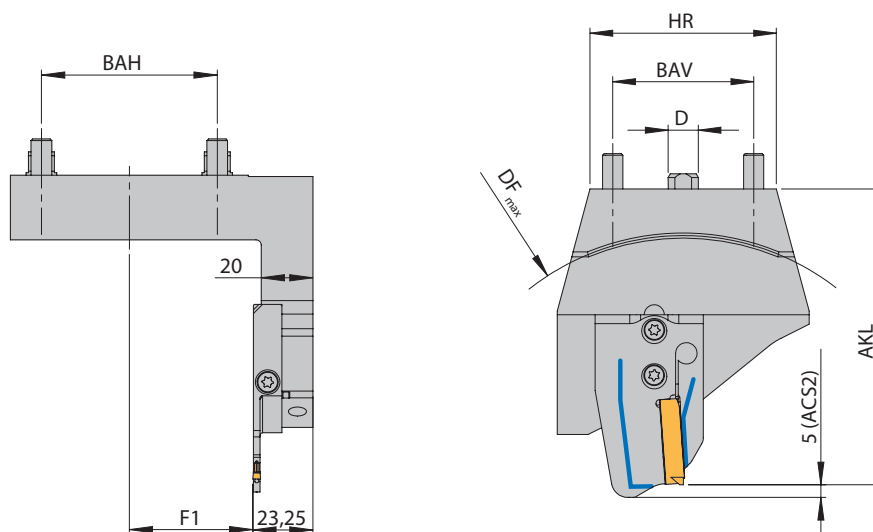
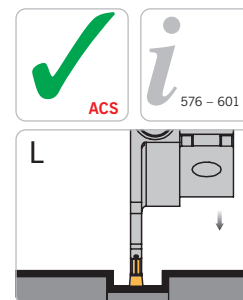
Normal assembly



Upside down assembly

HMSA–with ACS

Holder with more space for parting on the counter spindle



Right holder and left module shown

Basic holder

Designation	BAH	BAV	HR	D	F1	Module	PG 43
HMSA-68-56-R-MSA-SL-ACS	68 (2.766")	56 (2.205")	74 (2.913")	12 (0.472")	47.8 (1.882")	MSA-SL-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HMSA...	
	AKL	DF_{max}
MSA-...-32-ACS.	102.0 (4.106")	165 (6.496")
MSA-...-44-ACS.	107.0 (4.213")	175 (6.890")
MSA-...-52-ACS.	117.5 (4.626")	195 (7.677")
MSA-...-65-ACS.	117.5 (4.626")	195 (7.677")
MSA-...-69-ACS.	119.5 (4.705")	200 (7.874")
MSA-...-80-ACS.	125.0 (4.921")	210 (8.268")
MSA-...-90-ACS.	130.0 (5.118")	220 (8.661")
MSA-...-105-ACS.	138.0 (5.433")	230 (9.055")

Spare Parts

Holder	Screw for module	Key	O-ring
HMSA-68-56-R-MSA-SL-ACS	AS 0070	T5220-IP	OR 14X1,5P

Spare Parts

Modul Module Modulo	Schraube für Modul Screw for module Vite per modulo	Schlüssel Key Chiave
MSA-...	SA5T	T5220-IP

Assembly options

Left module shown

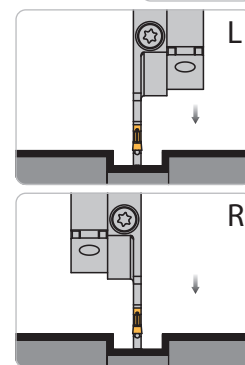
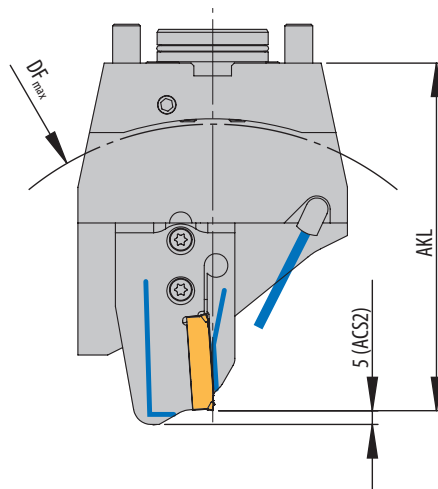
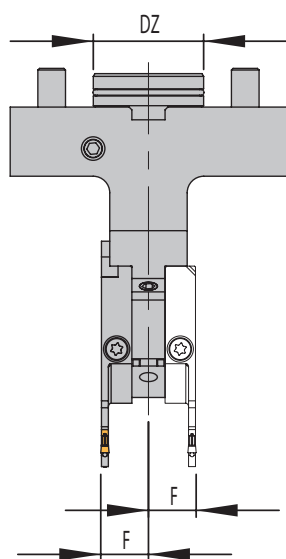


Normal assembly



Upside down assembly

NZ, NL–with internal coolant and ACS



Left module shown
Height adjustable holder
Right module alternative

Basic holder

Designation	DZ	F	Module	PG 43
HDM-NZ-BMT-SDS-ACS	40 (1.575")	17.3 (0.681")	MSA-...-ACS.	●
HDM-NL-BMT-SDS-ACS	60 (2.362")	17.3 (0.681")	MSA-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HDM-NZ...		HDM-NL...	
	AKL	DF_{max}	AKL	DF_{max}
MSA-...-32-ACS.	109.5 (4.311")	165 (6.496")	140.5 (5.531")	235 (9.252")
MSA-...-44-ACS.	114.5 (4.508")	175 (6.890")	145.0 (5.709")	245 (9.646")
MSA-...-52-ACS.	125.0 (4.921")	200 (7.874")	156.0 (6.142")	265 (10.433")
MSA-...-65-ACS.	125.0 (4.921")	200 (7.874")	156.0 (6.142")	265 (10.433")
MSA-...-69-ACS.	127.0 (5.000")	210 (8.268")	158.0 (6.220")	270 (10.630")
MSA-...-80-ACS.	132.5 (5.217")	210 (8.268")	163.5 (6.437")	280 (11.024")
MSA-...-90-ACS.	137.5 (5.413")	220 (8.661")	168.5 (6.634")	290 (11.417")
MSA-...-105-ACS.	145.0 (5.709")	235 (9.252")	176.5 (6.949")	305 (12.008")

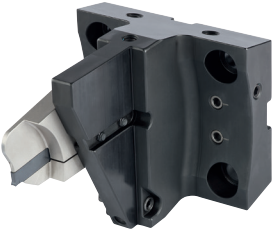
Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet
HDM-NZ-...-ACS	AS 0070	T5220-IP	OR 36 x 2 P	KMD 0825-3E
HDM-NL-...-ACS	AS 0070	T5220-IP	OR 54 x 3 P	KMD 0825-3E

Ersatzteile / Spare Parts / Ricambi

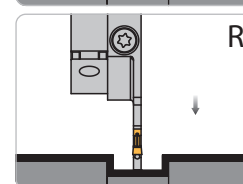
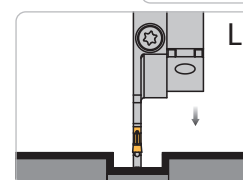
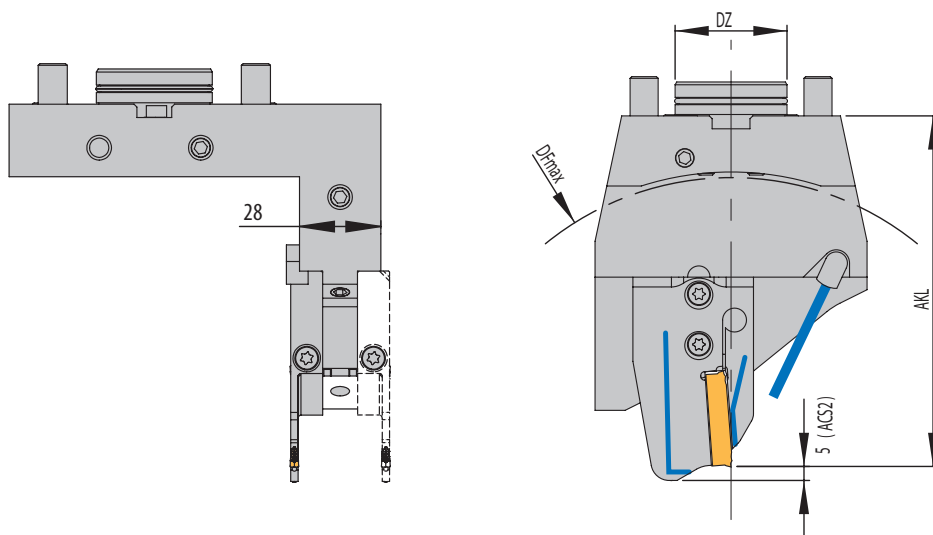
Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

NZ, NL–with internal coolant and ACS

Basic holders–modules can be mounted on both sides



Right holder and left module shown
Height adjustable holder
Right module alternative

Basic holder

Designation	DZ	F1	F2	Module	PG 43
HDM-NZ-BMT-SDL-ACS	40 (1.575")	46.8 (1.843")	81.3 (3.201")	MSA-...-ACS.	●
HDM-NZ-BMT-SDR-ACS	40 (1.575")	46.8 (1.843")	81.3 (3.201")	MSA-...-ACS.	●
HDM-NL-BMT-SDL-ACS	60 (2.362")	60.8 (2.394")	95.3 (3.752")	MSA-...-ACS.	●
HDM-NL-BMT-SDR-ACS	60 (2.362")	60.8 (2.394")	95.3 (3.752")	MSA-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-..

Designation	HDM-NZ...		HDM-NL...	
	AKL	DF_{max}	AKL	DF_{max}
MSA-...-32-ACS.	109.5 (4.311")	165 (6.496")	140.5 (5.531")	235 (9.252")
MSA-...-44-ACS.	114.5 (4.508")	175 (6.890")	145.0 (5.709")	245 (9.646")
MSA-...-52-ACS.	125.0 (4.921")	200 (7.874")	156.0 (6.142")	265 (10.433")
MSA-...-65-ACS.	125.0 (4.921")	200 (7.874")	156.0 (6.142")	265 (10.433")
MSA-...-69-ACS.	127.0 (5.000")	210 (8.268")	158.0 (6.220")	270 (10.630")
MSA-...-80-ACS.	132.5 (5.217")	210 (8.268")	163.5 (6.437")	280 (11.024")
MSA-...-90-ACS.	137.5 (5.413")	220 (8.661")	168.5 (6.634")	290 (11.417")
MSA-...-105-ACS.	145.0 (5.709")	235 (9.252")	176.5 (6.949")	305 (12.008")

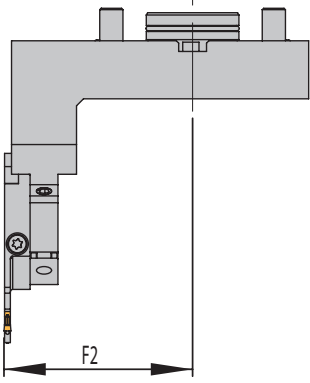
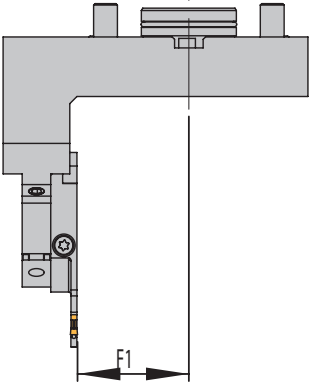
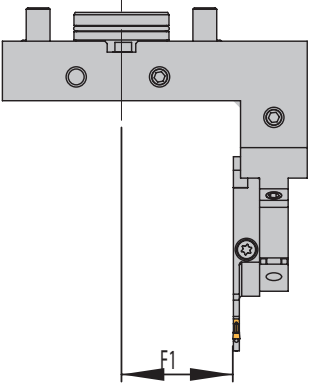
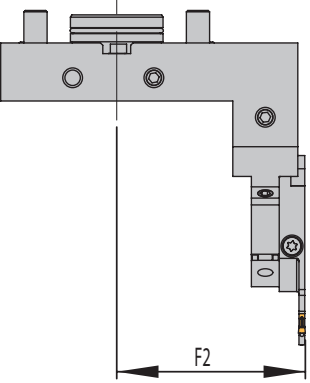
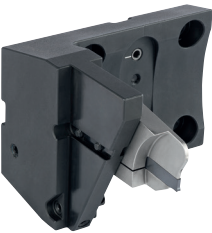
Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet
HDM-NL-...SDR/L-ACS	AS 0070	T5220-IP	OR 36 x 2 P	KMD 0825-3E
HDM-NZ-...SDR/L-ACS	AS 0070	T5220-IP	OR 54 x 3 P	KMD 0825-3E

Ersatzteile / Spare Parts / Ricambi

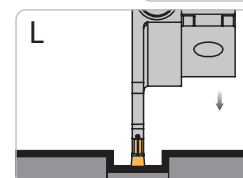
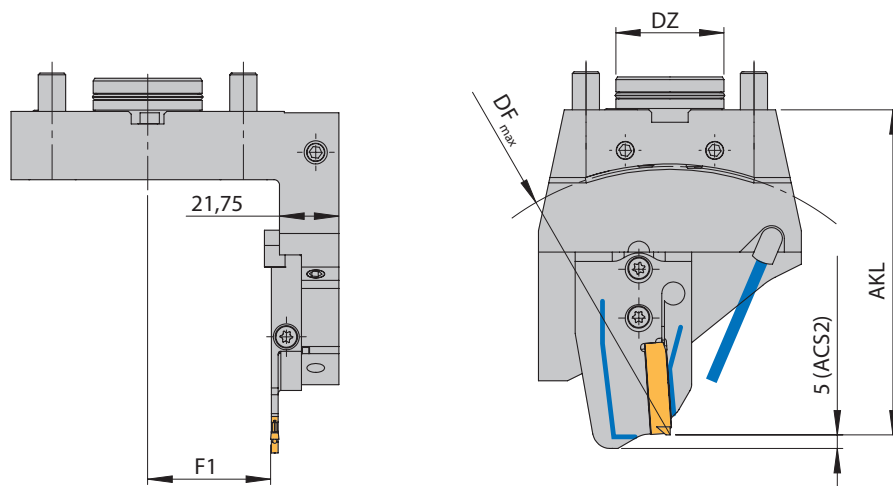
Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder		Right-hand holder	
HDM-NZ-BMT-SDL-ACS		HDM-NZ-BMT-SDR-ACS	
HDM-NL-BMT-SDL-ACS		HDM-NL-BMT-SDR-ACS	
			
Left module shown	Right module shown	Left module shown	Right module shown
			
Normal assembly	Normal assembly	Normal assembly	Normal assembly
			
Upside down assembly	Upside down assembly	Upside down assembly	Upside down assembly

NZ–with internal coolant and ACS

Basic holders—with more space for parting on the counter spindle



Right holder and left module shown
Height adjustable holder

Basic holder

Designation	DZ	F1	Module	PG 43
HDM-NZ-BMT-R-MSA-SL-ACS	40 (1.575")	45 (1.772")	MSA-SL-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HDM-NZ...	
	AKL	DF_{max}
MSA-...-32-ACS.	104.5 (4.114")	155 (6.102")
MSA-...-44-ACS.	109.5 (4.311")	165 (6.496")
MSA-...-52-ACS.	120.0 (4.724")	190 (7.480")
MSA-...-65-ACS.	120.0 (4.724")	190 (7.480")
MSA-...-69-ACS.	122.0 (4.803")	200 (7.874")
MSA-...-80-ACS.	127.5 (5.020")	205 (8.071")
MSA-...-90-ACS.	132.5 (5.217")	215 (8.465")
MSA-...-105-ACS.	140.5 (5.531")	225 (8.858")

Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet
HDM-NZ-...-ACS	AS 0070	T5220-IP	OR 36X2 P	KMD 0825-3E

Spare Parts

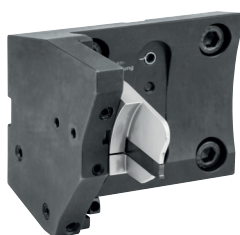
Modul Module Modulo	Schraube für Modul Screw for module Vite per modulo	Schlüssel Key Chiave
MSA-...-	SA5T	T5220-IP

Assembly options

Left module shown

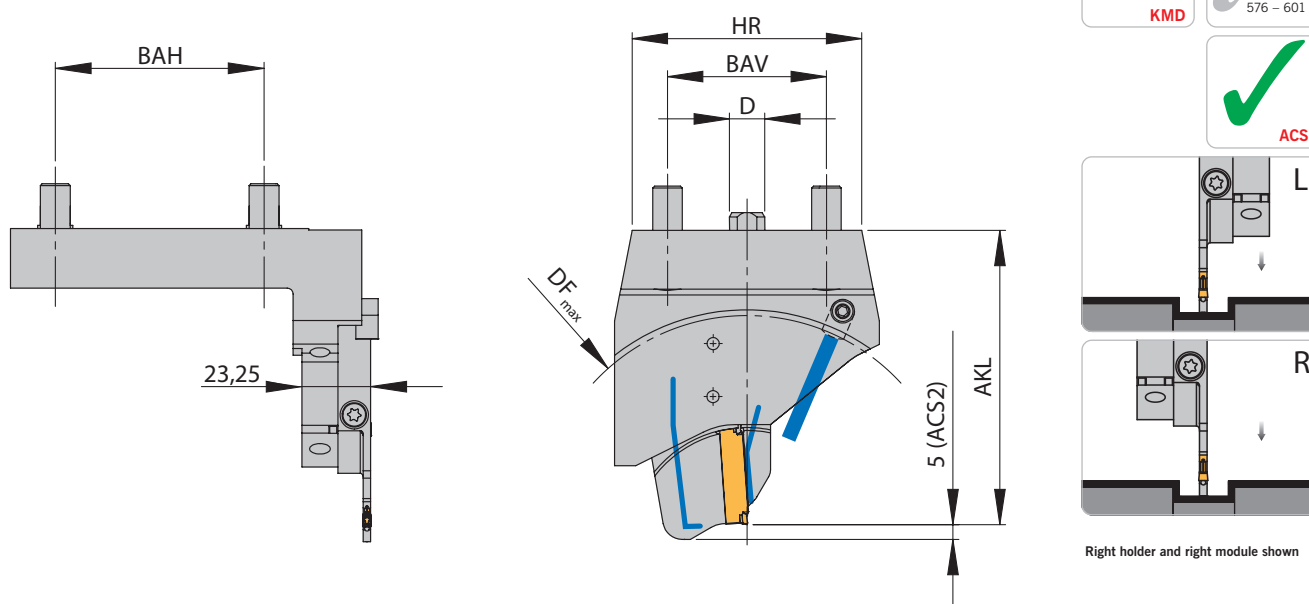


Normal assembly



Upside down assembly

HMU–with internal coolant and ACS



Basic holder

Designation	BAH	BAV	HR	D	F2	Module	PG 43
HMU-70-54-L/R-ACS	70 (2.756")	54 (2.216")	78 (3.071")	12 (0.472")	71 (2.795")	MSA-SL-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HMU...	
	AKL	DF_{max}
MSA-...-32-ACS.	84.5 (3.327")	110 (4.331")
MSA-...-44-ACS.	89.5 (3.524")	120 (4.724")
MSA-...-52-ACS.	100.0 (3.937")	140 (5.512")
MSA-...-65-ACS.	100.0 (3.937")	140 (5.512")
MSA-...-69-ACS.	102.0 (4.106")	145 (5.709")
MSA-...-80-ACS.	107.5 (4.232")	155 (6.102")
MSA-...-90-ACS.	112.5 (4.429")	160 (6.299")
MSA-...-105-ACS.	120.5 (4.744")	175 (6.890")

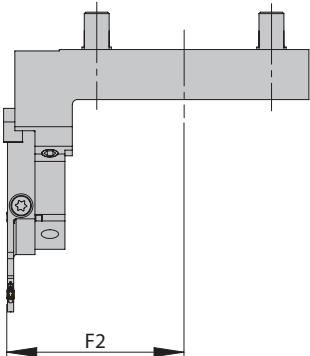
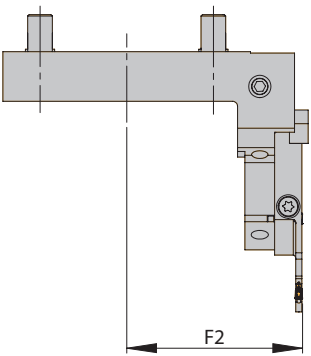
Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet	Locking pin
HMU-70-54-...-ACS	AS 0070	T5220-IP	OR 14X1,5P	KMD 0825-3E	ZS0818

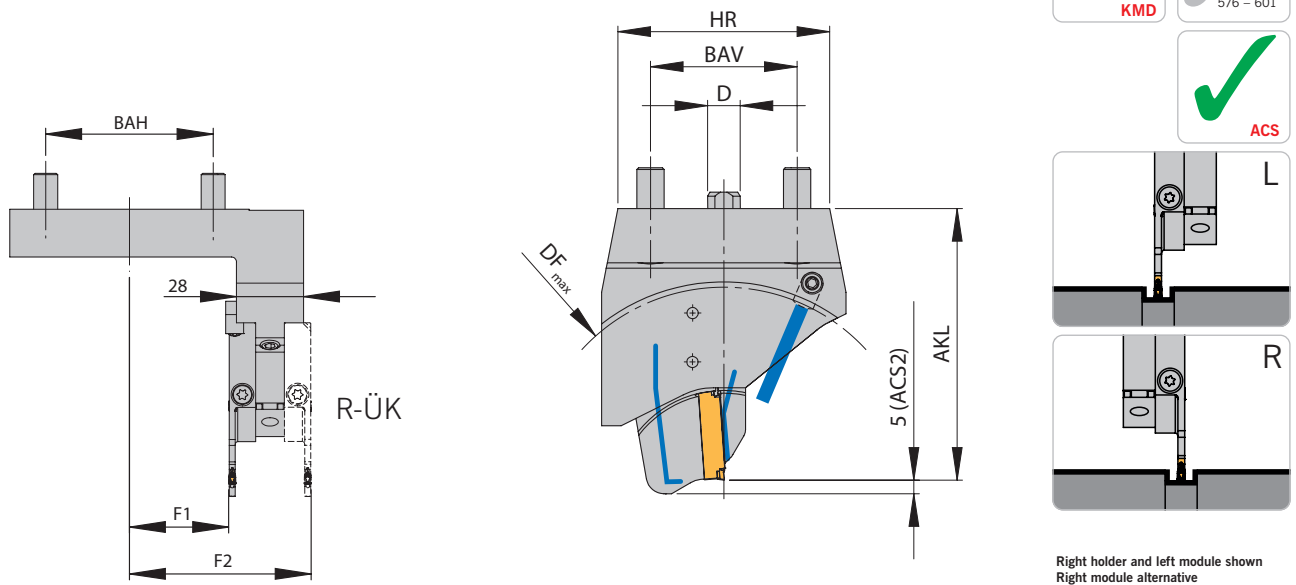
Spare Parts

Module	Screw for module	Key
MSA-...-	SA5T	T5220-IP

Assembly options

Left-hand holder	Right-hand holder
HMU-70-54-L-ACS	HMU-70-54-R-ACS
	
Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

HMU–with internal coolant and ACS



Basic holder

Bezeichnung Designation Articolo	BAH	BAV	HR	D	F1	F2	Modul Module Modulo	PG 43
HMU-70-54-122,5-R-ACS	70 (2.756")	54 (2.126")	78 (3.071")	12 (0.472")	41,5 (1.634")	76 (2.992")	MSA-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HMU...	
	AKL	DF_{max}
MSA-...-32-ACS.	99.5 (3.917")	155 (6.102")
MSA-...-44-ACS.	104.5 (4.114")	165 (6.496")
MSA-...-52-ACS.	115.0 (4.528")	185 (7.283")
MSA-...-65-ACS.	115.0 (4.528")	185 (7.283")
MSA-...-69-ACS.	117.0 (4.606")	190 (7.480")
MSA-...-80-ACS.	122.5 (4.823")	200 (7.874")
MSA-...-90-ACS.	127.5 (5.020")	210 (8.268")
MSA-...-105-ACS.	135.5 (5.335")	225 (8.858")

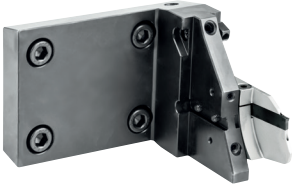
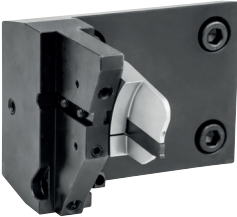
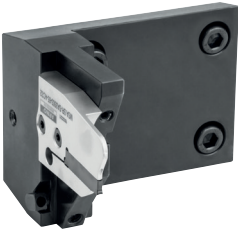
Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet	Locking pin
HMU-70-54-122,5-R-ACS	AS 0070	T5220-IP	OR 14X1,5P	KMD 0825-3E	ZS0818

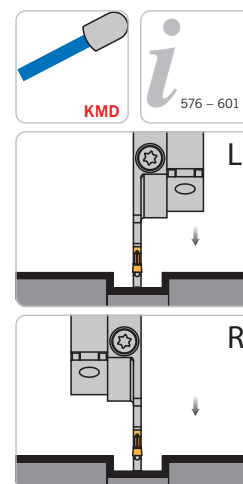
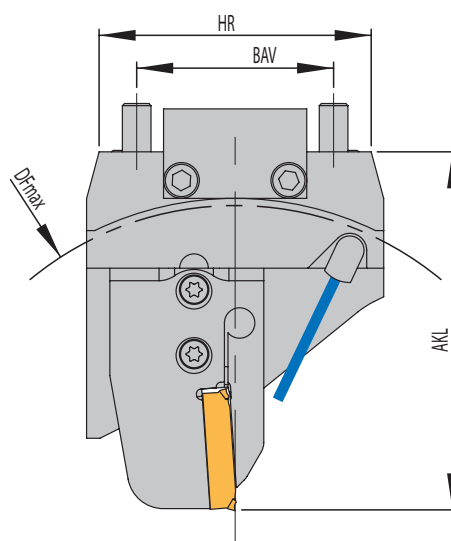
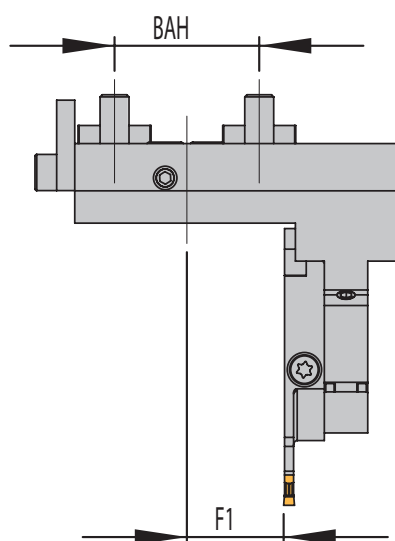
Spare Parts

Modul Module Modulo	Schraube für Modul Screw for module Vite per modulo	Schlüssel Key Chiave
MSA-...	SA5T	T5220-IP

Assembly options

Left module shown	Right module shown
	
Normal assembly	Normal assembly
	
Upside down assembly	Upside down assembly

WT100/WY100/NTY3/WT150–with internal coolant



Right holder and left module shown

Basic holder

Designation	BAH	BAV	HR	F1	F2	Module	PG 43
HNSA-RB62-L/R	40 (1.575")	55 (55.0 (2.165"))	76 (2.992")	26.8 (1.055")	61.3 (2.413")	MSA-...	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HNSA-RB62...		HNSA-RB80...	
	AKL	DF_{max}	AKL	DF_{max}
MSA-...-32	84.5 (3.327")	135 (5.315")	87.0 (3.425")	140 (5.512")
MSA-...-44	89.5 (3.524")	145 (5.709")	92.0 (3.622")	150 (5.906")
MSA-...-52	100.0 (3.937")	165 (6.496")	102.5 (4.035")	170 (6.693")
MSA-...-65	100.0 (3.937")	165 (6.496")	102.5 (4.035")	170 (6.693")
MSA-...-80	107.5 (4.232")	180 (7.087")	110.0 (4.331")	185 (7.283")
MSA-...-105	120.5 (4.744")	205 (8.071")	123.0 (4.843")	210 (8.268")
MSA-...-125	130.5 (5.138")	225 (8.858")	133.0 (5.236")	230 (9.055")
MSA-...-140	138.0 (5.433")	240 (9.449")	140.5 (5.531")	245 (9.646")

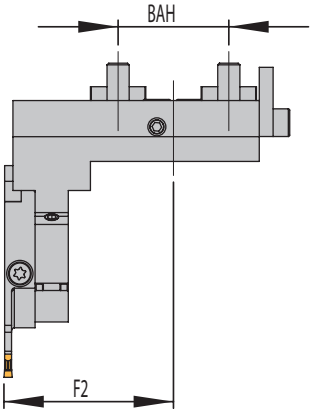
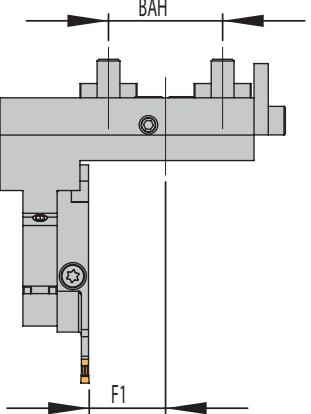
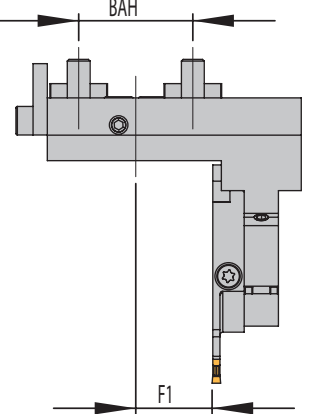
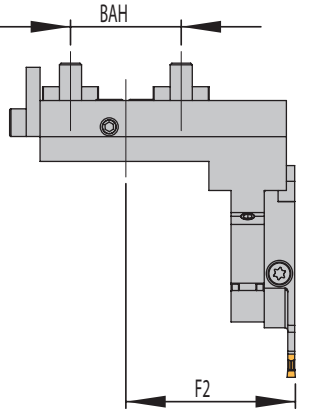
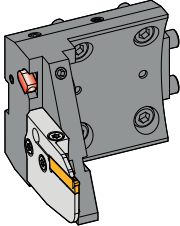
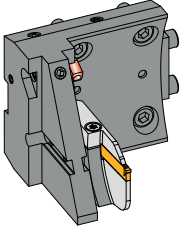
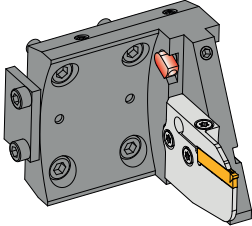
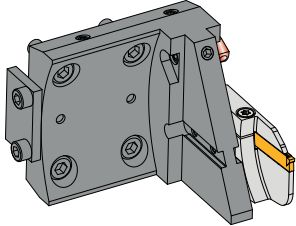
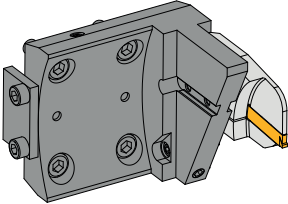
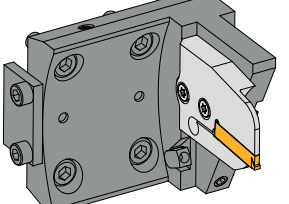
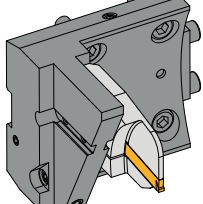
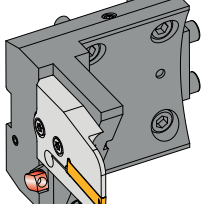
Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet
HNSA-RB62-	AS 0070	T5220-IP	OR 8X1,5 P	KMD 0825-3E
HNSA-RB80-R	AS 0070	T5220-IP	OR 8X1,5 P	KMD 0825-3E

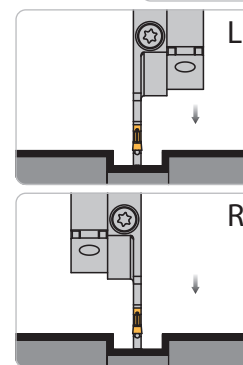
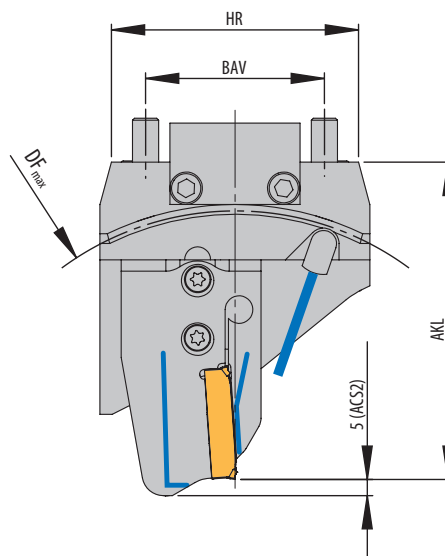
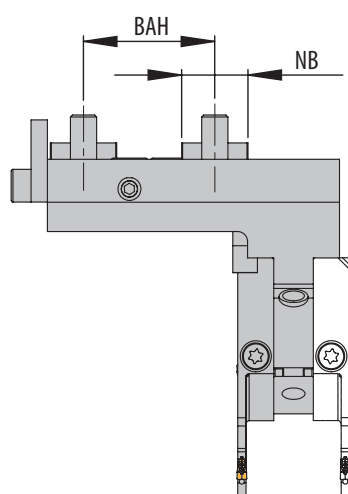
Spare Parts

Module	Screw for module	Key
MSA-...	SA5T	T5220-IP

Assembly options

Left-hand holder		Right-hand holder	
HNSA-RB62-L	HNSA-RB62-L	HNSA-RB62-R	HNSA-RB62-R
HNSA-RB80-L	HNSA-RB80-L	HNSA-RB80-R	HNSA-RB80-R
			
Left module shown	Right module shown	Left module shown	Right module shown
			
Normal assembly	Normal assembly	Normal assembly	Normal assembly
			
Upside down assembly	Upside down assembly	Upside down assembly	Upside down assembly

RB62 / RB80–with internal coolant and ACS



Right holder and left module shown
Right module alternative

Basic holder

Designation	BAH	BAV	HR	NB	F1	F2	Module	PG 43
HNSA-RB62-SDL/R-ACS	40 (1.575")	55 (2.165")	76 (2.992")	20 (0.787")	26,8 (1.055")	61,3 (2.413")	MSA-...-ACS.	●
HNSA-RB80-SDL/R-ACS	50 (1.968")	60 (2.362")	80 (3.150")	20 (0.787")	33,8 (1.331")	68,3 (2.689")	MSA-...-ACS.	●

Module

DF_{max} = maximum chuck diameter and AKL = Overhang length with modules MSA-...

Designation	HNSA-RB62...		HNSA-RB80...	
	AKL	DF_{max}	AKL	DF_{max}
MSA-...-32-ACS.	82.0 (3.228")	135 (5.315")	87.0 (3.425")	140 (5.512")
MSA-...-44-ACS.	87.0 (3.425")	145 (5.709")	92.0 (3.622")	150 (5.906")
MSA-...-52-ACS.	97.5 (3.839")	165 (6.496")	102.5 (4.035")	170 (6.693")
MSA-...-65-ACS.	97.5 (3.839")	165 (6.496")	102.5 (4.035")	170 (6.693")
MSA-...-69-ACS.	99.5 (3.917")	165 (6.496")	104.5 (4.114")	175 (6.890")
MSA-...-80-ACS.	105.0 (4.134")	180 (7.087")	110.0 (4.331")	185 (7.283")
MSA-...-90-ACS.	110.0 (4.331")	190 (7.480")	115.0 (4.528")	195 (7.677")
MSA-...-105-ACS.	118.0 (4.646")	205 (8.071")	123.0 (4.843")	210 (8.268")

For modules to suit please see chapter SA (Page 114 to 128)

Spare Parts

Holder	Screw for module	Key	O-ring	Coolant jet
HNSA-RB62-SD.-ACS	AS 0070	T5220-IP	OR 8X1,5 P	KMD 0825-3E
HNSA-RB80-SD.-ACS	AS 0070	T5220-IP	OR 8X1,5 P	KMD 0825-3E

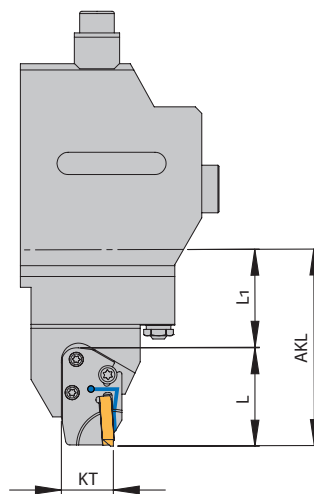
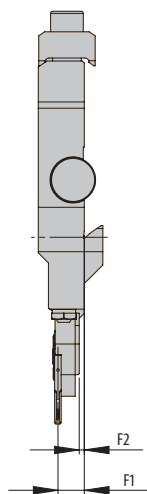
Spare Parts

Module	Screw for module	Key
MSA-...	SA5T	T5220-IP

Assembly options

Left-hand holder		Right-hand holder	
HNSA-RB62_SDL-ACS	HNSA-RB62_SDL-ACS	HNSA-RB62-SDR-ACS	HNSA-RB62-SDR-ACS
HNSA-RB80-SDL-ACS	HNSA-RB80-SDL-ACS	HNSA-RB80-SDR-ACS	HNSA-RB80-SDR-ACS
Left module shown	Right module shown	Left module shown	Right module shown
Normal assembly	Normal assembly	Normal assembly	Normal assembly

MS22 / MS32-40 / MS52-with internal coolant and ACS



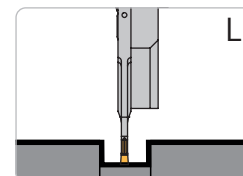
KMD



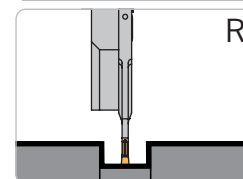
576 - 601



ACS



L



R

Left-hand execution shown
Left module shown
Height adjustable holder

Basic holder

Designation	Location	L1	F1	F2	KT	Module	PG 43
MS22-W5190231-MSA-IN-ACS	MS22	44,2 (1.740")	8,4 (0.331")	-2,0 (-.079")	24 (0.945")	MSA-IL/ILL-...ACS.	●
MS32-40-W5190233-MSA-IN-ACS	MS32-40	45,5 (1.791")	12,9 (0.508")	2,5 (0.098")	24 (0.945")	MSA-IL/ILL-...ACS.	●
MS52-W5190260-MSA-IL-ACS	MS 52	35,5 (1.398")	8,9 (0.350")	0,5 (0.020")	24 (0.945")	MSA-IL/ILL-...ACS.	●
MS52-W5190261-MSA-IR-ACS	MS 52	35,5 (1.398")	2,1 (0.083")	0,5 (0.020")	24 (0.945")	MSA-IR/IRR-...ACS.	●
MS52-W5190244-MSA-IN-ACS	MS52	67,5 (2.657")	6,9 (0.272")	-3,5 (-.138")	24 (0.945")	MSA-IL/ILL-...ACS.	●

Module

AKL (overhang length) = L (length of module) + L1

Designation	MS22...	MS32-40...	MS52... short	MS52... long
	AKL	AKL	AKL	AKL
MSA-I...SA1602-L45,5-22-ACS.	89.7 (3.531")	—	—	—
MSA-I...SA2402-L45,5-32-ACS.	—	91.0 (3.583")	—	—
MSA-I...SA2402-L48,5-42-ACS.	—	94.0 (3.701")	—	—
MSA-I...SA2403-L45,5-32-ACS.	—	91.0 (3.583")	—	—
MSA-I...SA2403-L48,5-42-ACS.	—	94.0 (3.701")	—	—
MSA-I...SA3502-L55-52-ACS.	—	—	90.5 (3.563")	—
MSA-I...SA3502-L55-52-ACS.	—	—	90.5 (3.563")	—
MSA-I...SA3503-L55-52-ACS.	—	—	90.5 (3.563")	—
MSA-I...SA3503-L55-52-ACS.	—	—	90.5 (3.563")	—
MSA-I...SA3502-L55-52-ACS.	—	—	—	122.5 (4.823")
MSA-I...SA3503-L55-52-ACS.	—	—	—	122.5 (4.823")

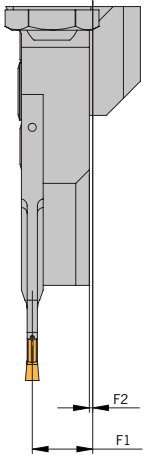
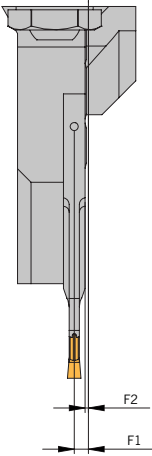
Remark: For modules to suit please see chapter SA (Page 114 to 128)

Spare Parts

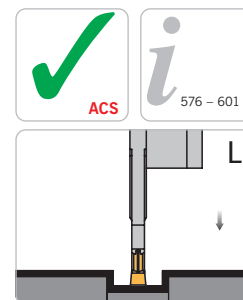
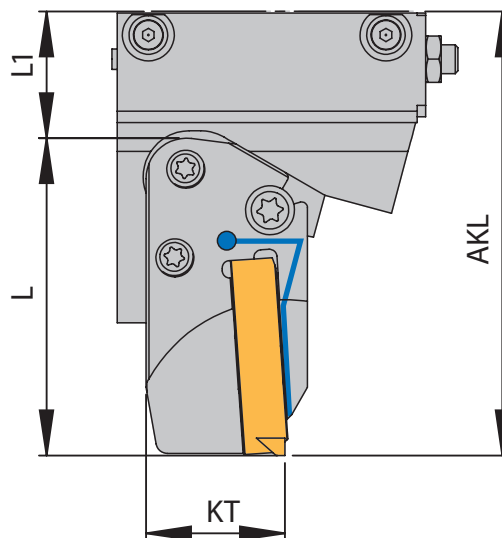
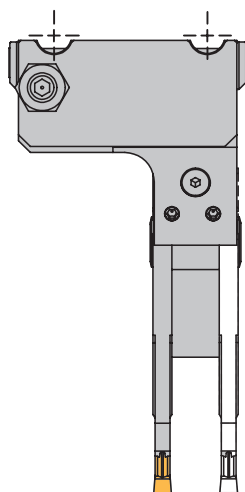
Holder	Screw for module	Key
MS..	2 x AS 0049 / AS 0050 *	T5220-IP

* Alternatively AS 0050D (double sided IP20)

Assembly options

Left-hand holder	Right-hand holder
MS22-W5190231-MSA-IN-ACS	MS52-W5190261-MSA-IR-ACS
MS32-40-W5190233-MSA-IN-ACS	
MS52-W5190260-MSA-IL-ACS	
MS52-W5190244-MSA-IN-ACS	
	
Left module shown	Right module shown
	
Normal assembly	Normal assembly

GWS02/GWS09/GWS41–with internal coolant and ACS



Right holder and left module shown
Height adjustable holder
Right module alternative

Basic holder

Designation	Location	L1	F1	F2	KT	Module	PG 43
GWS02R-EQ02001-MSA-IN-ACS	GWS02	14 (0.551")	3.6 (0.142")	7.6 (0.299")	24 (0.945")	MSA-I-...-ACS.	●
GWS02R-EQ02002-MSA-IN-ACS	GWS02	22 (0.866")	3.6 (0.142")	7.6 (0.299")	24 (0.945")	MSA-I-...-ACS.	●
GWS09R-EQ09001-MSA-IN-ACS	GWS09	14 (0.551")	3.6 (0.142")	7.6 (0.299")	24 (0.945")	MSA-I-...-ACS.	●
GWS41R-EQ41002-MSA-IN-ACS	GWS41	22 (0.866")	3.6 (0.142")	7.6 (0.299")	24 (0.945")	MSA-I-...-ACS.	●
GWS41L-EQ41001-MSA-IN-ACS	GWS41	22 (0.866")	3.6 (0.142")	7.6 (0.299")	24 (0.945")	MSA-I-...-ACS.	●

Module

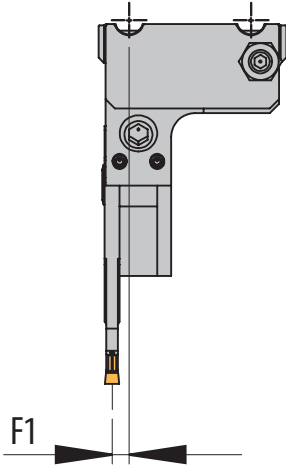
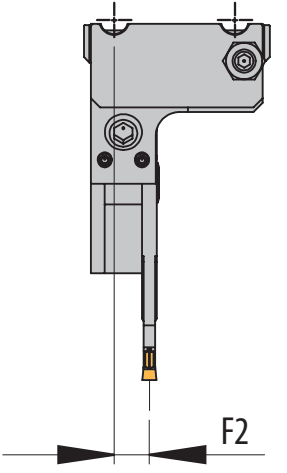
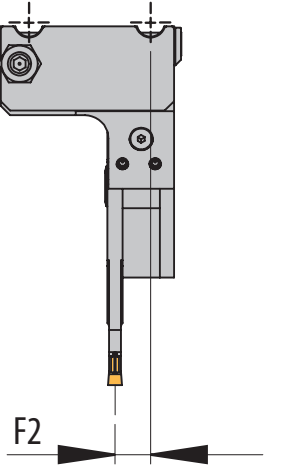
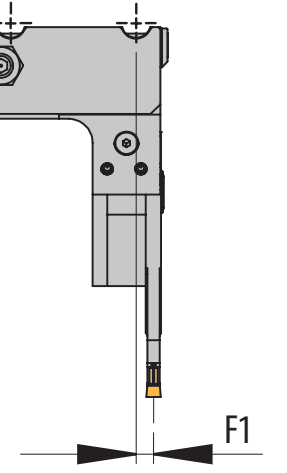
AKL (overhang length) = L (length of module) + L1

Module	GWS02R-EQ02001...	GWS02R-EQ02002...	GWS09R-EQ09001...	GWS41R-EQ41002...	GWS41L-EQ41001...
	AKL	AKL	AKL	AKL	AKL
MSA-I-L37-...-ACS.	51.0 (2.008")	59.0 (2.323")	51.0 (2.008")	59.0 (2.323")	59.0 (2.323")
MSA-I-L41-...-ACS.	55.0 (2.165")	63.0 (2.480")	55.0 (2.165")	63.0 (2.480")	63.0 (2.480")
MSA-I-L43,5-...-ACS.	57.0 (2.244")	65.5 (2.579")	57.5 (2.264")	65.5 (2.579")	65.5 (2.579")
MSA-I-L44-...-ACS.	58.0 (2.283")	66.0 (2.598")	58.0 (2.283")	66.0 (2.598")	66.0 (2.598")
MSA-I-L45,5-...-ACS.	59.5 (2.343")	67.5 (2.657")	59.5 (2.343")	67.5 (2.657")	67.5 (2.657")
MSA-I-L48,5-...-ACS.	62.5 (2.461")	70.5 (2.776")	62.5 (2.461")	70.5 (2.776")	70.5 (2.776")
MSA-I-L55-...-ACS.	69.0 (2.717")	77.0 (3.031")	69.0 (2.717")	77.0 (3.031")	77.0 (3.031")

Spare Parts

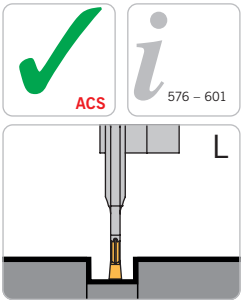
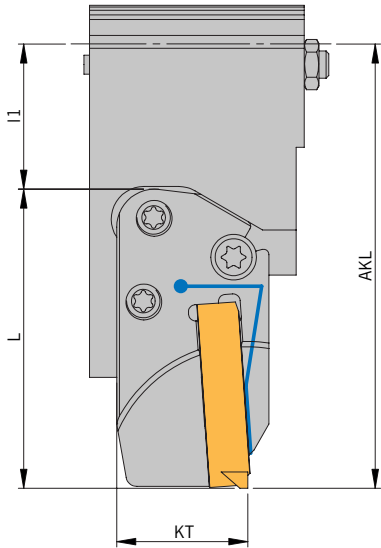
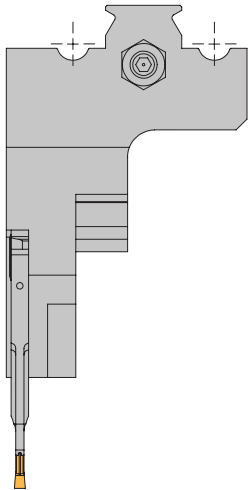
Holder	Screw for module	Key
GWS..	2 x AS 0049 / 1 x AS 0050*	T5220-IP

Einbaumöglichkeiten / Assembly options / Combinazioni di montaggio

Left-hand holder		Right-hand holder	
GWS41L-EQ41001-MSA-IN-ACS	GWS41L-EQ41001-MSA-IN-ACS	GWS02R-EQ02001-MSA-IN-ACS	GWS02R-EQ02001-MSA-IN-ACS
		GWS02REQ02002-MSA-IN-ACS	GWS02REQ02002-MSA-IN-ACS
		GWS09R-EQ09001-MSA-IN-ACS	GWS09R-EQ09001-MSA-IN-ACS
		GWS41R-EQ41002-MSA-IN-ACS	GWS41R-EQ41002-MSA-IN-ACS
			
Left module shown	Right module shown	Left module shown	Right module shown
			
Normal assembly	Normal assembly	Normal assembly	Normal assembly

Remark: All shown options are available with only one holder.

GWS02–with ACS



Left holder and left module shown
Height adjustable holder

Basic holder

Designation	Location	L1	F1	KT	Module	PG 43
GWS202L-EQ207.874"1-MSA-IN-ACS	GWS202	26,5 (1.043")	35,8 (1.409")	24 (0.945")	MSA-IL/ILL-...-ACS.	●

Module

AKL (overhang length) = L (length of module) + L1

Modul Module Modulo	GWS202...
	AKL
MSA-I.-L37-...-ACS.	63.5 (2.500")
MSA-I.-L41-...-ACS.	67.5 (2.657")
MSA-I.-L43,5-...-ACS.	69.0 (2.717")
MSA-I.-L44-...-ACS.	70.5 (2.776")
MSA-I.-L45,5-...-ACS.	72.0 (2.835")
MSA-I.-L48,5-...-ACS.	75.0 (2.953")
MSA-I.-L55-52-...-ACS.	81.5 (3.209")

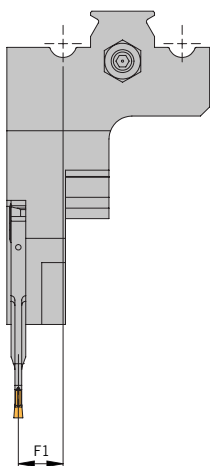
Ersatzteile / Spare Parts / Ricambi

Trägerwerkzeug Holder Utensile	Schraube für Modul Screw for module Vite per modulo	Schlüssel Key Chiave
GWS..	1 x AS 0049 / 2 x AS 0050*	T5220-IP

Assembly options

Left-hand holder

GWS202L-EQ202001-MSA-IN-ACS



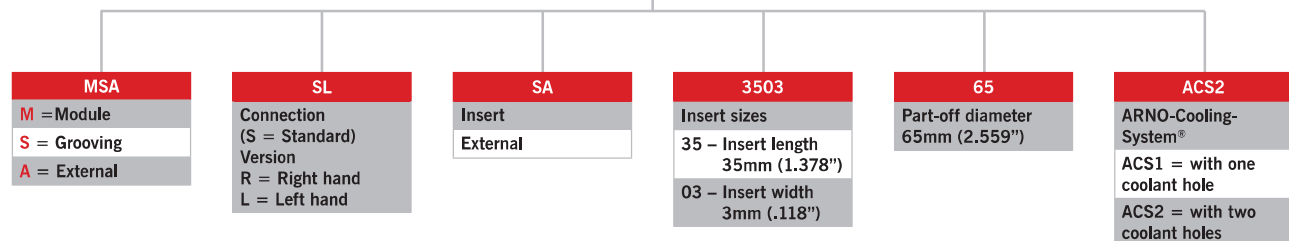
Left module shown



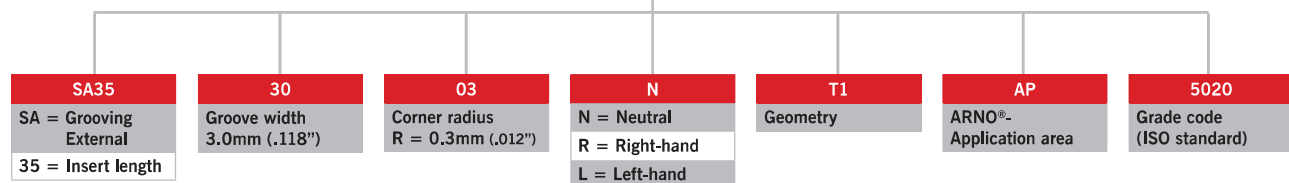
Normal assembly

Modules

1



Inserts





Modules

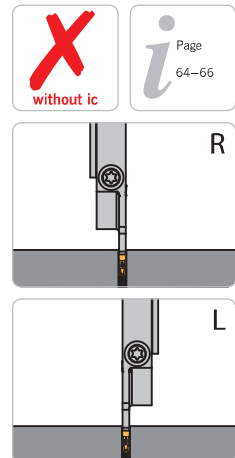
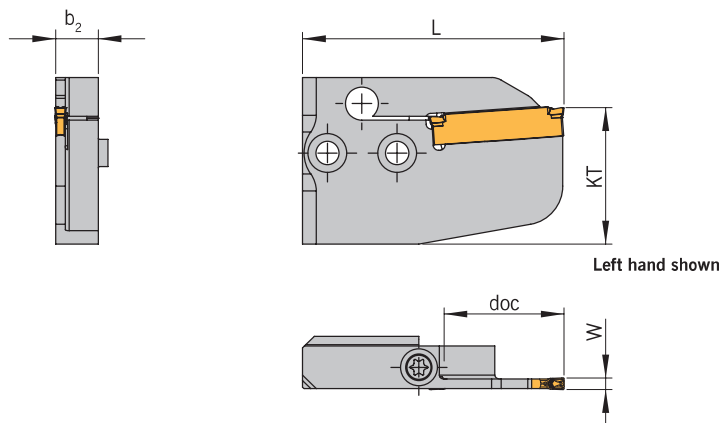
Page 46 – 51



Indexable inserts

Page 56 – 62

MSA



Modules for inserts SA24 and SA35

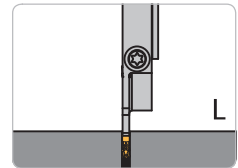
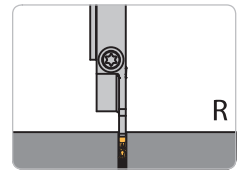
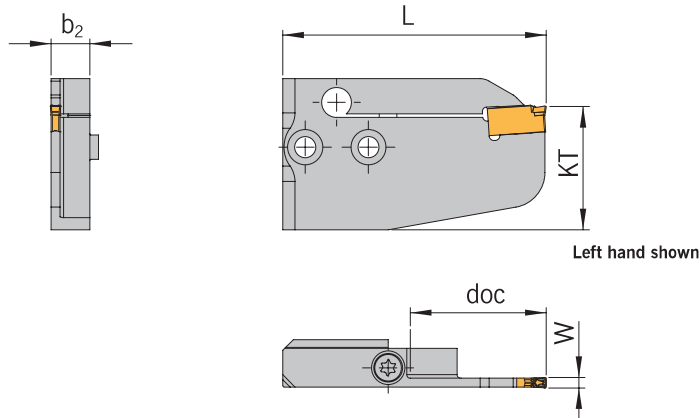
Designation	EDP	W	doc	D _{max}	D _R	b ₂	L	KT	Insert
MSA-SL-SA24015-32	96508	.059	.630	1.260	1.890	.433	2.047	1.378	SA 24-15...
MSA-SR-SA24015-32	96510	.059	.630	1.260	1.890	.433	2.047	1.378	SA 24-15...
MSA-SL-SA24015-44	96514	.059	.866	1.732	2.402	.433	2.244	1.378	SA 24-15...
MSA-SR-SA24015-44	96512	.059	.866	1.732	2.402	.433	2.244	1.378	SA 24-15...
MSA-SL-SA2402-32	91800	.079	.630	1.260	1.890	.433	2.047	1.378	SA 24-20...
MSA-SR-SA2402-32	91796	.079	.630	1.260	1.890	.433	2.047	1.378	SA 24-20...
MSA-SL-SA2402-44	91810	.079	.866	1.732	2.402	.433	2.244	1.378	SA 24-20...
MSA-SR-SA2402-44	91804	.079	.866	1.732	2.402	.433	2.244	1.378	SA 24-20...
MSA-SL-SA2403-32	91802	.118	.630	1.260	1.890	.433	2.047	1.378	SA 24-30...
MSA-SR-SA2403-32	91798	.118	.630	1.260	1.890	.433	2.047	1.378	SA 24-30...
MSA-SL-SA2403-44	91808	.118	.866	1.732	2.402	.433	2.244	1.378	SA 24-30...
MSA-SR-SA2403-44	91806	.118	.866	1.732	2.402	.433	2.244	1.378	SA 24-30...
MSA-SL-SA2404-44	96011	.157	.866	1.732	2.402	.433	2.244	1.378	SA 24-40...
MSA-SR-SA2404-44	96013	.157	.866	1.732	2.402	.433	2.244	1.378	SA 24-40...
MSA-SL-SA3502-52	91816	.079	1.024	2.047	2.677	.433	2.657	1.378	SA 35-20...
MSA-SR-SA3502-52	91812	.079	1.024	2.047	2.677	.433	2.657	1.378	SA 35-20...
MSA-SL-SA3502-65	91824	.079	1.280	2.559	3.150	.433	2.657	1.378	SA 35-20...
MSA-SR-SA3502-65	91820	.079	1.280	2.559	3.150	.433	2.657	1.378	SA 35-20...
MSA-SL-SA3502-105	97041	.079	2.067	4.134	4.134	.433	3.465	1.378	SA 35-20...
MSA-SR-SA3502-105	95944	.079	2.067	4.134	4.134	.433	3.465	1.378	SA 35-20...
MSA-SL-SA3503-52	91818	.118	1.024	2.047	2.677	.433	2.657	1.378	SA 35-30...
MSA-SR-SA3503-52	91814	.118	1.024	2.047	2.677	.433	2.657	1.378	SA 35-30...
MSA-SL-SA3503-65	91826	.118	1.280	2.559	3.150	.433	2.657	1.378	SA 35-30...
MSA-SR-SA3503-65	91822	.118	1.280	2.559	3.150	.433	2.657	1.378	SA 35-30...
MSA-SL-SA3503-105	93225	.118	2.067	4.134	4.134	.433	3.465	1.378	SA 35-30...
MSA-SR-SA3503-105	95946	.118	2.067	4.134	4.134	.433	3.465	1.378	SA 35-30...
MSA-SL-SA3503-125	95614	.118	2.461	4.921	4.921	.433	3.839	1.909	SA 35-30...
MSA-SR-SA3503-125	97045	.118	2.461	4.921	4.921	.433	3.839	1.909	SA 35-30...
MSA-SR-SA3503-140	95908	.118	2.756	5.512	5.512	.433	4.154	1.909	SA 35-30...
MSA-SL-SA3504-52	96015	.157	1.024	2.047	2.677	.433	2.657	1.378	SA 35-40...
MSA-SR-SA3504-52	96017	.157	1.024	2.047	2.677	.433	2.657	1.378	SA 35-40...
MSA-SL-SA3504-65	96019	.157	1.280	2.559	3.150	.433	2.657	1.378	SA 35-40...
MSA-SR-SA3504-65	96021	.157	1.280	2.559	3.150	.433	2.657	1.378	SA 35-40...
MSA-SL-SA3504-105	97043	.157	2.067	4.134	4.134	.433	3.465	1.378	SA 35-40...
MSA-SR-SA3504-105	95948	.157	2.067	4.134	4.134	.433	3.465	1.378	SA 35-40...

D_{max} = Maximum diameter in solid material, D_R = Maximum diameter for tube material

When using cut-off modules for diameter 4.134" (105mm) or bigger, we recommend using a torque wrench at 2.21ft-lbs (3Nm).

All modules fit on NC-Holders with a "standard" connection (e.g. 72525R-1.000). Please refer to separate catalog for more information.

MSA



1

Modules for inserts SA17 (single sided)

Designation	EDP	W	doc	D _{max}	D _R	b ₂	L	KT	Insert
MSA-SL-SA1703-80	91915	.118	1.575	3.150	3.150	.433	2.953	1.378	SA 17-30...
MSA-SR-SA1703-80	91917	.118	1.575	3.150	3.150	.433	2.953	1.378	SA 17-30...
MSA-SL-SA1703-105	106065	.118	2.067	4.134	4.134	.433	3.465	1.378	SA17-30...
MSA-SL-SA1704-80	96023	.157	1.575	3.150	3.150	.433	2.953	1.378	SA 17-40...
MSA-SR-SA1704-80	96025	.157	1.575	3.150	3.150	.433	2.953	1.378	SA 17-40...
MSA-SL-SA1704-105	98836	.157	2.067	4.134	4.134	.433	3.465	1.378	SA 17-40...
MSA-SR-SA1704-105	98838	.157	2.067	4.134	4.134	.433	3.465	1.378	SA 17-40...

D_{max} = Maximum diameter in solid material, D_R = Maximum diameter for tube material

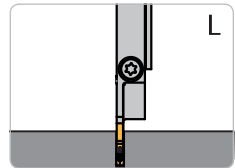
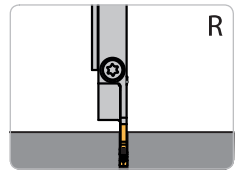
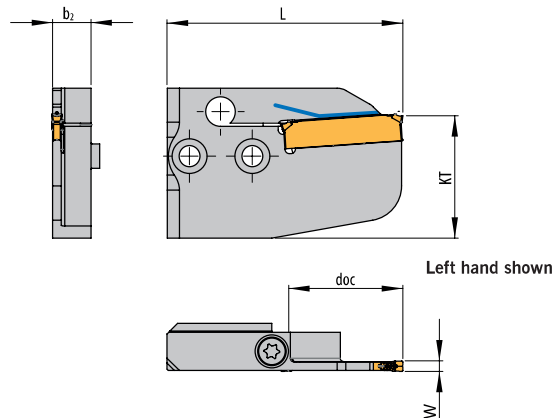
When using cut-off modules for diameter 4.134" (105mm) or bigger, we recommend using a torque wrench at 2.21ft-lbs (3Nm).

All modules fit on NC-Holders with a "standard" connection (e.g. 72525R-1.000). Please refer to separate catalog for more information.

Spare parts

Module	Screw	Key
MSA-S R/L...	SA5T	T5220-IP

MSA-ACS1



Modules with Through Coolant ACS1

Designation	EDP	W	doc	D _{max}	D _R	b ₂	L	KT	Insert
MSA-SL-SA2402-44-ACS1	109447	.079	.866	1.732	2.402	.433	2.244	1.378	SA 24-20...
MSA-SR-SA2402-44-ACS1	109448	.079	.866	1.732	2.402	.433	2.244	1.378	SA 24-20...
MSA-SL-SA3502-65-ACS1	109442	.079	1.280	2.559	3.150	.433	2.657	1.378	SA 35-20...
MSA-SR-SA3502-65-ACS1	109441	.079	1.280	2.559	3.150	.433	2.657	1.378	SA 35-20...
MSA-SL-SA3503-65-ACS1	97783	.118	1.280	2.559	3.150	.433	2.657	1.378	SA 35-30...
MSA-SR-SA3503-65-ACS1	97785	.118	1.280	2.559	3.150	.433	2.657	1.378	SA 35-30...
MSA-SL-SA3504-105-ACS1	107754	.157	2.067	4.134	4.134	.433	3.465	1.378	SA 35-40...
MSA-SL-SA3506-105-ACS1	104198	.236	2.067	4.134	4.134	.433	3.465	1.378	SA 35-60...

D_{max} = Maximum diameter in solid material, D_R = Maximum diameter for tube material

When using cut-off modules for diameter 4.134" (105mm) or bigger, we recommend using a torque wrench at 2.21ft-lbs (3Nm).

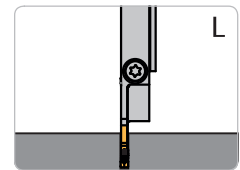
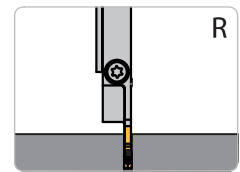
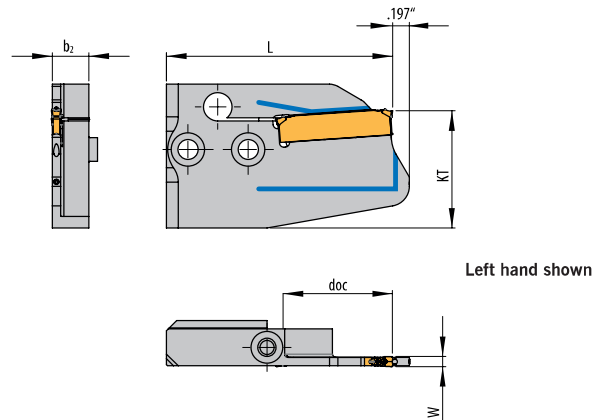
All modules fit on reinforced monoblock ACS holders. Please refer to page 52 for more information.

All modules also fit on ARNO flange mounted holders for maximum rigidity. Please refer to separate catalog for more information.

Spare parts

Module	Screw	Key
MSA-S R/L...	SA5T	T5220-IP

MSA-ACS2



1

Modules with Through Coolant ACS2

Designation	EDP	W	doc	D _{max}	D _R	b ₂	L	KT	Insert
MSA-SL-SA2402-44-ACS2	109443	.079	.866	1.732	2.402	.433	2.244	1.378	SA 24-20...
MSA-SR-SA2402-44-ACS2	109444	.079	.866	1.732	2.402	.433	2.244	1.378	SA 24-20...
MSA-SL-SA2403-32-ACS2	104108	.118	.630	1.260	1.890	.433	2.047	1.378	SA 24-30...
MSA-SR-SA2403-32-ACS2	104110	.118	.630	1.260	1.890	.433	2.047	1.378	SA 24-30...
MSA-SL-SA2403-44-ACS2	98283	.118	.866	1.732	2.402	.433	2.244	1.378	SA 24-30...
MSA-SR-SA2403-44-ACS2	98281	.118	.866	1.732	2.402	.433	2.244	1.378	SA 24-30...
MSA-SL-SA3503-52-ACS2	101913	.118	1.024	2.047	2.677	.433	2.657	1.378	SA 35-30...
MSA-SR-SA3503-52-ACS2	101915	.118	1.024	2.047	2.677	.433	2.657	1.378	SA 35-30...
MSA-SL-SA3503-65-ACS2	97864	.118	1.280	2.559	3.150	.433	2.657	1.378	SA 35-30...
MSA-SR-SA3503-65-ACS2	98277	.118	1.280	2.559	3.150	.433	2.657	1.378	SA 35-30...
MSA-SL-SA3503-69-ACS2	101769	.118	1.358	2.717	3.150	.433	2.736	1.378	SA 35-30...
MSA-SL-SA3503-80-ACS2	102519	.118	1.575	3.150	3.150	.433	2.953	1.378	SA 35-30...
MSA-SR-SA3503-80-ACS2	102521	.118	1.575	3.150	3.150	.433	2.953	1.378	SA 35-30...
MSA-SL-SA3503-105-ACS2	98014	.118	2.067	4.134	4.134	.433	3.465	1.378	SA 35-30...
MSA-SR-SA3503-105-ACS2	98275	.118	2.067	4.134	4.134	.433	3.465	1.378	SA 35-30...
MSA-SL-SA3504-65-ACS2	102050	.157	1.280	2.559	3.150	.433	2.657	1.378	SA 35-40...
MSA-SR-SA3504-65-ACS2	102052	.157	1.280	2.559	3.150	.433	2.657	1.378	SA 35-40...
MSA-SL-SA3504-105-ACS2	106088	.157	2.067	4.134	4.134	.433	3.465	1.378	SA 35-40...
MSA-SR-SA3504-105-ACS2	106090	.157	2.067	4.134	4.134	.433	3.465	1.378	SA 35-40...

D_{max} = Maximum diameter in solid material, D_R = Maximum diameter for tube material

When using cut-off modules for diameter 4.134" (105mm) or bigger, we recommend using a torque wrench at 2.21ft-lbs (3Nm).

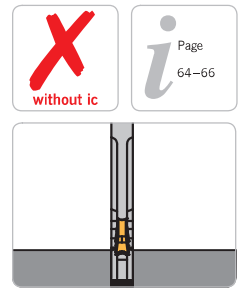
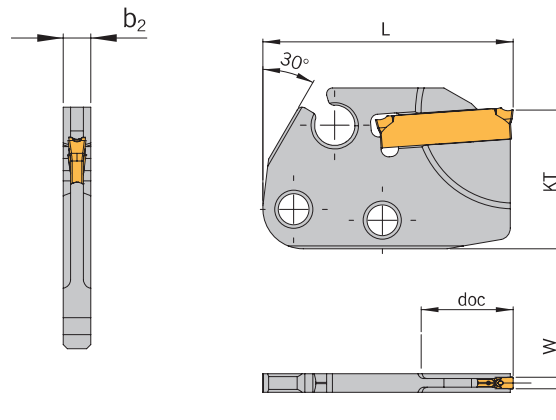
All modules fit on reinforced monoblock ACS holders. Please refer to page 52 for more information.

All modules also fit on ARNO flange mounted holders for maximum rigidity. Please refer to separate catalog for more information.

Spare parts

Module	Screw	Key
MSA-S R/L...	SA5T	T5220-IP

MSA-IN



Modules in neutral design for multi spindle machines

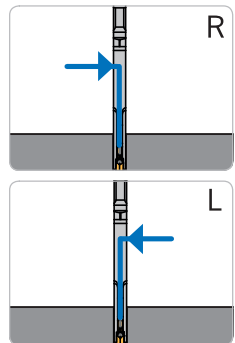
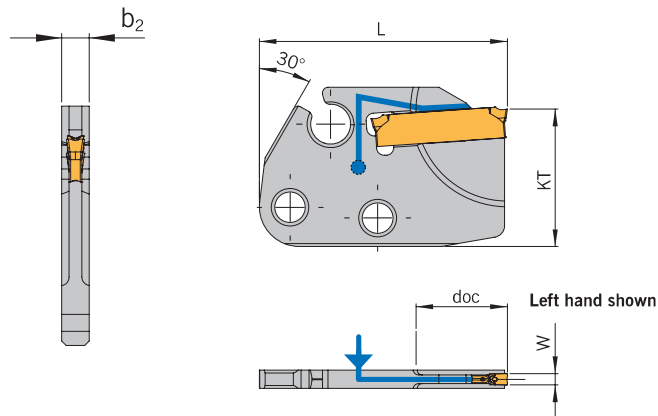
Designation	EDP	W	doc	D _{max}	D _R	b ₂	L	KT	Insert
MSA-IN-SA1602-20	93008	.079	.394	.787	—	.126	1.398	.945	SA 16-20...
MSA-IN-SA1602-26	100826	.079	.512	1.024	—	.126	1.280	.945	SA 16-20...
MSA-IN-SA16015-L43,5-12	106061	.059	.236	.472	—	.126	1.713	.945	SA 16-15...
MSA-IN-SA16015-L43,5-16	106063	.059	.315	.630	—	.126	1.713	.945	SA 16-15...
MSA-IN-SA24015-20	96440	.059	.394	.787	—	.126	1.713	.945	SA 24-15...
MSA-IN-SA24015-32	96442	.059	.630	1.260	—	.126	1.713	.945	SA 24-15...
MSA-IN-SA2402-20	95559	.079	.394	.787	—	.126	1.713	.945	SA 24-20...
MSA-IN-SA2402-26	100824	.079	.512	1.024	—	.126	1.713	.945	SA 24-20...
MSA-IN-SA2402-32	93006	.079	.630	1.260	—	.126	1.713	.945	SA 24-20...
MSA-IN-SA2402-L54-26	103778	.079	.512	1.024	—	.126	2.126	.945	SA 24-20...
MSA-IN-SA2403-32	93067	.118	.630	1.260	—	.126	1.713	.945	SA 24-30...
MSA-IN-SA3503-52	98294	.118	1.024	2.047	—	.126	2.146	.945	SA 24-30...

D_{max} = Maximum diameter in solid material, D_R = Maximum diameter for tube material

Neutral modules can be mounted on both sides.

Modules are not supplied with screws.

MSA-IL/R..-ACS1

Modules with Through Coolant **ACS1** for multi spindle machines

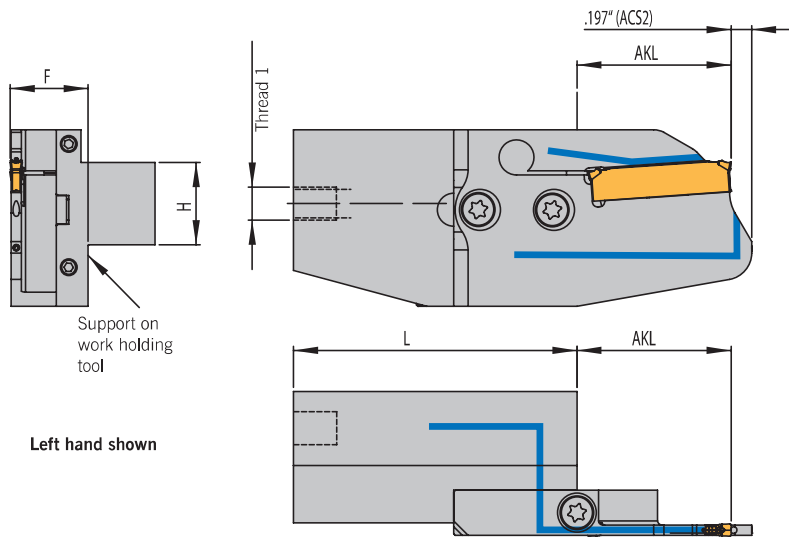
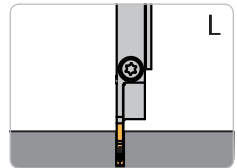
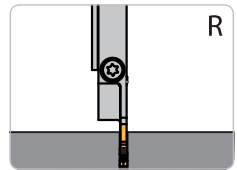
Designation	EDP	W	doc	D _{max}	D _R	b ₂	L	KT	Insert
MSA-IR-SA1602-L37-20-ACS1	106975	.079	.394	.787	—	.126	1.457	.945	SA 16-20...
MSA-IR-SA1602-L41-20-ACS1	105946	.079	.394	.787	—	.126	1.614	.945	SA 16-20...
MSA-IR-SA1602-L43,5-26-ACS1	106981	.079	.433	.866	—	.126	1.791	.945	SA 16-20...
MSA-IR-SA1602-L45,5-22-ACS1	106979	.079	.512	1.024	—	.126	1.713	.945	SA 16-20...
MSA-IR-SA2402-L45,5-32-ACS1	106983	.079	.630	1.260	—	.126	1.791	.945	SA 24-20...
MSA-IR-SA2402-L48,5-42-ACS1	106985	.079	.827	1.654	—	.126	1.909	.945	SA 24-20...
MSA-IR-SA2402-L44-46-ACS1	108738	.079	.906	1.811	—	.126	1.732	.945	SA 24-20...
MSA-IR-SA2403-L45,5-32-ACS1	106987	.118	.630	1.260	—	.126	1.791	.945	SA 24-30...
MSA-IR-SA2403-L48,5-42-ACS1	106989	.118	.827	1.654	—	.126	1.909	.945	SA 24-30...
MSA-IR-SA3502-L55-52-ACS1	106991	.079	1.024	2.047	—	.126	2.165	.945	SA 35-20...
MSA-IR-SA3503-L55-52-ACS1	106993	.118	1.024	2.047	—	.126	2.165	.945	SA 35-30...
MSA-IL-SA1602-L37-20-ACS1	106995	.079	.394	.787	—	.126	1.457	.945	SA 16-20...
MSA-IL-SA1602-L41-20-ACS1	105944	.079	.394	.787	—	.126	1.614	.945	SA 16-20...
MSA-IL-SA1602-L43,5-26-ACS1	107001	.079	.433	.866	—	.126	1.791	.945	SA 16-20...
MSA-IL-SA1602-L45,5-22-ACS1	106999	.079	.512	1.024	—	.126	1.713	.945	SA 16-20...
MSA-IL-SA2402-L45,5-32-ACS1	107003	.079	.630	1.260	—	.126	1.791	.945	SA 24-20...
MSA-IL-SA2402-L48,5-42-ACS1	107005	.079	.827	1.654	—	.126	1.909	.945	SA 24-20...
MSA-IL-SA2402-L44-46-ACS1	108818	.079	.906	1.811	—	.126	1.732	.945	SA 24-20...
MSA-IL-SA2403-L45,5-32-ACS1	107007	.118	.630	1.260	—	.126	1.791	.945	SA 24-30...
MSA-IL-SA2403-L48,5-42-ACS1	107009	.118	.827	1.654	—	.126	1.909	.945	SA 24-30...
MSA-IL-SA3502-L55-52-ACS1	107011	.079	1.024	2.047	—	.126	2.165	.945	SA 35-20...
MSA-IL-SA3503-L55-52-ACS1	107013	.118	1.024	2.047	—	.126	2.165	.945	SA 35-30...

Information: Modules fit flange mounted holders for Tornos / Göltenbodt and Index machines which can be found in the catalog "ARNO-ACS cooling system".

Spare parts

Module	Screw	Key
MSA-I R/L...	AS 0049 / AS 0050	T5220-IP

HSA 7...


inch
&
metric


Tool holders for SA Modules (MSA-S R/L) with Through Coolant ACS

Designation	EDP	H	L	Thread 1
HSA 71629L-ACS-.625	501713	.625	2.126	—
HSA 71629R-ACS-.625	501714	.625	2.126	—
HSA 72032L-ACS-.750	105683	.750	2.717	—
HSA 72032R-ACS-.750	105685	.750	2.717	—
HSA 72536L-ACS-1.000	105687	1.000	3.307	—
HSA 72536R-ACS-1.000	105689	1.000	3.307	—

Module	AKL	F
MSA-...-32	.866	.748
MSA-...-44	1.063	
MSA-...-52	1.476	
MSA-...-65	1.476	
MSA-...-80	1.772	
MSA-...-105	2.283	
MSA-...-125	2.677	
MSA-...-140	2.972	

inch
&
metric


Remark: Holders HSA-7... are supplied without modules. Suitable modules can be found on pages 48 and 49.

Tool holders for SA Modules (MSA-S R/L) without Through Coolant ACS

Designation	EDP	H	L	Thread 1
HSA 72032L-.750	105675	.750	4.134	—
HSA 72032R-.750	105677	.750	4.134	—
HSA 72536L-1.000	105679	1.000	4.724	—
HSA 72536R-1.000	105681	1.000	4.724	—

Module	AKL	F
MSA-...-32	.866	.748
MSA-...-44	1.063	
MSA-...-52	1.476	
MSA-...-65	1.476	
MSA-...-80	1.772	
MSA-...-105	2.283	
MSA-...-125	2.677	
MSA-...-140	2.972	

inch
&
metric


Remark: Holders HSA-7... are supplied without modules. Suitable modules can be found on pages 46 and 47.

**F1**

Very soft cutting geometry

- For low to medium strength materials with low built-up edge tendency
- Suitable for thin-walled components

**T1**

Excellent chip control and formation

- For Steel and Stainless Steel
- Universal geometry
- Also suitable for thin wall machining

**S1**

Soft cutting geometry

- Especially for Stainless Steel
- Problem solver for Steel machining

**M1**

Geometry with small negative chamfer

- For medium to high strength materials
- Suitable for all Steels (Stainless and Cast)
- First choice where cutting conditions are solid

**ALU**

Ground and polished geometry with a sharp edge

- First choice for Aluminum and Non-Ferrous materials as well as Plastics
- Periphery ground insert
- High positive design
- Polished chip breaker

Coated

AP5020

PVD Coated:

Good wear resistance grade for longer tool life and reliability of cutting edges. Makes this grade suitable for more wear resistant materials at higher cutting speeds.

Material application: Steel and Stainless Steel, also suitable for High Temperature Alloys and Non-Ferrous materials.

AP5030

PVD Coated:

A universal grade slightly tougher than AP5020 for tougher machining conditions, especially when machining Steel components. First choice for steel.

Material application: Steel and Stainless Steel.

AM5040

PVD Coated:

A tough but universal grade for low to medium cutting speeds, with excellent resistance to chipping of the cutting edge, makes this the perfect grade for very demanding applications.

Material application: Stainless Steel and Steel

AP2220

CVD Coated:

A harder grade for low to medium cutting speed.

Material application: Steel and Stainless Steel, also suitable for High Temperature Alloys and Non-Ferrous materials.

AP2240

CVD Coated:

AP2240 is the ideal combination of high toughness and heat resistance. Combined with a strong cutting edge it offers extended tool life and improved process reliability.

Material application: Steel and Cast Iron, also suitable for Stainless Steel

1

Uncoated

AN1015

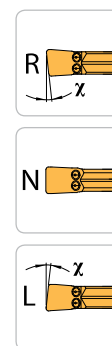
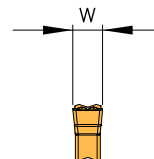
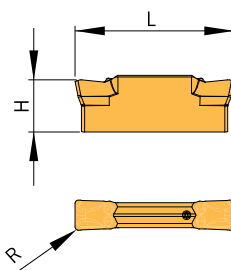
Roughing - Finishing applications.

The precision ground cutting edges with a highly polished chip breaker from provides excellent chip flow with a high resistance to build-up edge (b.u.e.).

Material application: Aluminum Alloys and Non-Ferrous materials. Also first choice in Plastics.

SA16

1



EDP											uncoated
coated											
Designation	W	H	L	R	χ	AM5040	AP2220	AP2240	AP5020	AP5030	AN1015
SA16-1502N-S1	.059	.217	.630	.008	0°				104623		
SA16-1501R-S1-15*	.059	.217	.630	.004	15°				106891		
SA16-2001L-S1-12*	.079	.217	.630	.004	12°	100902					
SA16-2001R-S1-12*	.079	.217	.630	.004	12°	100905					
SA16-2001L-T1-15*	.079	.217	.630	.004	15°				97838		
SA16-2001R-T1-15*	.079	.217	.630	.004	15°				97840		
SA16-2002N-F1	.079	.217	.630	.008	0°		87870		87263		
SA16-2002N-S1	.079	.217	.630	.008	0°	97828			96152		
SA16-2002N-T1	.079	.217	.630	.008	0°		87872		87261		
SA16-3002L-S1-12*	.118	.217	.630	.008	12°	100915					
SA16-3002R-S1-12*	.118	.217	.630	.008	12°	100917					
SA16-3003L-M1	.118	.217	.630	.012	6°		90213		90217		
SA16-3003R-M1	.118	.217	.630	.012	6°		90211		90215		
SA16-3003L-S1	.118	.217	.630	.012	6°	97980					
SA16-3003R-S1	.118	.217	.630	.012	6°	97982					
SA16-3003L-T1	.118	.217	.630	.012	6°		90221		90225		
SA16-3003R-T1	.118	.217	.630	.012	6°		90219		90223		
SA16-3003N-M1	.118	.217	.630	.012	0°		87874		87265		
SA16-3003N-S1	.118	.217	.630	.012	0°	97836			96154		
SA16-3003N-T1	.118	.217	.630	.012	0°		87876		87267		

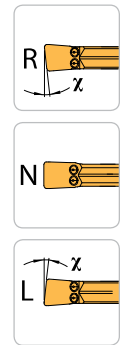
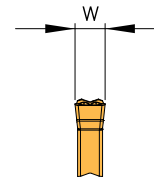
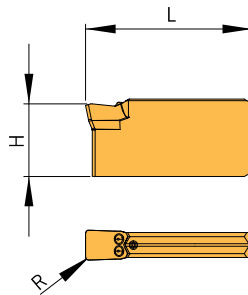
Remark: When using left or right handed inserts the holder may need modification.

* Ground version

- Main application
- Secondary application

P	○	●	●	
M	●	○	○	
K		●		
N			○	
S			○	
H				

SA17



1

EDP									uncoated
coated									
Designation	W	H	L	R	AM5040	AP2220	AP5020	AP5030	AN1015
SA17-2002N-ALU*	.079	.295	.659	.008					104509
SA17-2001L-ALU-15*	.079	.295	.659	.004					104511
SA17-2001R-ALU-15*	.079	.295	.659	.004					104513
SA17-3003N-ALU*	.118	.295	.659	.012					104503
SA17-3002L-ALU-15*	.118	.295	.659	.008					104505
SA17-3002R-ALU-15*	.118	.295	.659	.008					104507
SA17-3003N-M1	.118	.295	.659	.012		91977	91974		
SA17-3003N-T1	.118	.295	.659	.012			94808		
SA17-4004N-M1	.157	.295	.659	.016		96691	96693		
SA17-4004N-S1	.157	.295	.659	.016	101890				

Remark: When using left or right handed inserts the holder may need modification.

*Ground version

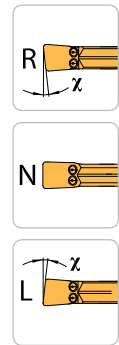
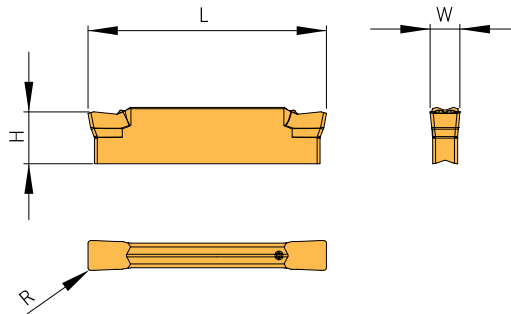
The SA17 inserts are single sided.

- Main application
- Secondary application

P	○	●	●	
M	●	○	○	
K		●		
N			○	
S			○	
H				

SA24

1



Designation	W	H	L	R	χ	EDP					uncoated
						AM5040	AP2220	AP2240	AP5020	AP5030	
SA24-15005L-T1-15*	.059	.217	.945	.002	15°				105844		
SA24-15005R-T1-15*	.059	.217	.945	.002	15°				105846		
SA24-1500L-S1-15*	.059	.217	.945	.000	15°				105936		
SA24-1500R-S1-15*	.059	.217	.945	.000	15°				105938		
SA24-1501L-S1-15*	.059	.217	.945	.004	15°				105942		
SA24-1501R-S1-15*	.059	.217	.945	.004	15°				105940		
SA24-1502N-S1	.059	.217	.945	.008	0°				97008		
SA24-1502N-T1	.059	.217	.945	.008	0°				102755		
SA24-2000R-T1-15*	.079	.217	.945	.000	15°				101917		
SA24-2001L-S1-12*	.079	.217	.945	.004	12°	100907					
SA24-2001L-S1-15*	.079	.217	.945	.004	15°				97846		
SA24-2001L-T1-15*	.079	.217	.945	.004	15°				97947		
SA24-2001R-S1-12*	.079	.217	.945	.004	12°	100909					
SA24-2001R-S1-15*	.079	.217	.945	.004	15°				97848		
SA24-2001R-T1-15*	.079	.217	.945	.004	15°				97949		
SA24-2002L-S1-8*	.079	.217	.945	.008	8°				97842		
SA24-2002R-S1-8*	.079	.217	.945	.008	8°				97844		
SA24-2002N-F1	.079	.217	.945	.008	0°		87878		87271		
SA24-2002N-M1	.079	.217	.945	.008	0°		96000	106886	91759		
SA24-2002N-S1	.079	.217	.945	.008	0°	97830		104398	91769	97006	
SA24-2002N-T1	.079	.217	.945	.008	0°		87880	104400	87269		
SA24-2502L-S1	.098	.217	.945	.008	6°	105962			105948		
SA24-2502L-S1-8*	.098	.217	.945	.008	8°				105954		
SA24-2502L-T1	.098	.217	.945	.008	6°				105956		
SA24-2502R-S1	.098	.217	.945	.008	6°	105960			105950		
SA24-2502R-S1-8*	.098	.217	.945	.008	8°				105952		
SA24-2502R-T1	.098	.217	.945	.008	6°				105958		
SA24-2503N-M1	.098	.217	.945	.012	0°				104625		
SA24-2503N-S1	.098	.217	.945	.012	0°	102081			102079	106285	
SA24-2503N-T1	.098	.217	.945	.012	0°				102083	106287	

Remark: When using left or right handed inserts the holder may need modification.

* Ground version

- Main application
- Secondary application

P	○	●	●	●	●
M	●	○	○	○	○
K		●	●		
N				○	
S				○	
H					

EDP											uncoated
coated											
Designation	W	H	L	R	λ	AM5040	AP2220	AP2240	AP5020	AP5030	AN1015
SA24-3002L-S1-12*	.118	.217	.945	.008	12°	100919					
SA24-3002L-T1-15*	.118	.217	.945	.008	15°				108833		
SA24-3002R-S1-12*	.118	.217	.945	.008	12°	100921					
SA24-3003L-M1	.118	.217	.945	.012	6°		90229	104416	90233		
SA24-3003L-S1	.118	.217	.945	.012	6°	97984					
SA24-3003L-T1	.118	.217	.945	.012	6°		90237		90241		
SA24-3003R-M1	.118	.217	.945	.012	6°		90227	104414	90231		
SA24-3003R-S1	.118	.217	.945	.012	6°	97986					
SA24-3003R-T1	.118	.217	.945	.012	6°		90235		90239		
SA24-3003N-M1	.118	.217	.945	.012	0°		87882	104402	87273		
SA24-3003N-S1	.118	.217	.945	.012	0°	97834		104404	96156	106289	
SA24-3003N-T1	.118	.217	.945	.012	0°		87884	104406	87275	106291	
SA24-4004N-M1	.157	.217	.945	.016	0°		92074		92072		
SA24-4004N-S1	.157	.217	.945	.016	0°	97988					
SA24-4004N-T1	.157	.217	.945	.016	0°				100932		
SA24-5005N-M1	.197	.295	.945	.020	0°				100938		
SA24-5005N-S1	.197	.295	.945	.020	0°				100940		
SA24-5005N-T1	.197	.295	.945	.020	0°				100936		
SA24-2001L-ALU-15*	.079	.217	.945	.004	15°						101593
SA24-2001R-ALU-15*	.079	.217	.945	.004	15°						101595
SA24-2002N-ALU*	.079	.217	.945	.008	0°						94833
SA24-3002L-ALU-15*	.118	.217	.945	.008	15°						102070
SA24-3002R-ALU-15*	.118	.217	.945	.008	15°						102072
SA24-3003N-ALU*	.118	.217	.945	.012	0°						102068

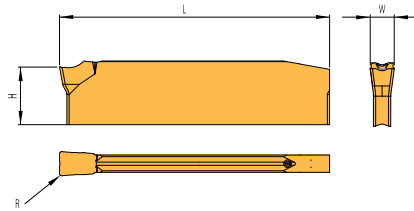
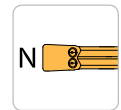
Remark: When using left or right handed inserts the holder may need modification.

* Ground version

- Main application
- Secondary application

P	○	●	●	●	●	
M	●	○	○	○	○	
K		●	●			
N				○		
S				○		
H						

SA24E (single sided)



1

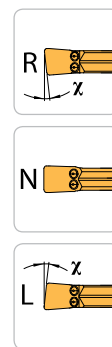
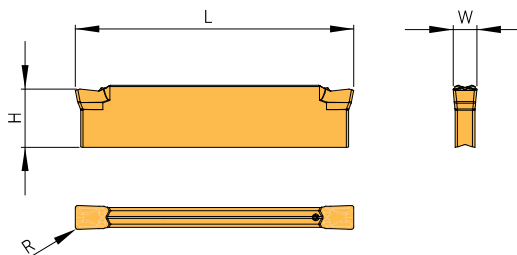
EDP										
coated										uncoated
Designation	W	H	L	R	AM5040	AP2220	AP2240	AP5020	AP5030	AN1015
SA24E-2002N-S1	.079	.217	.919	.008				97281		
SA24E-3003N-S1	.118	.217	.919	.012				97279		

Remark: When using left or right handed inserts the holder may need modification.

- Main application
- Secondary application

P		●	
M		○	
K			
N		○	
S		○	
H			

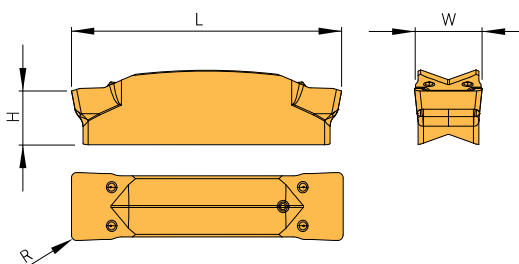
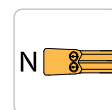
SA35



1

EDP												
coated											uncoated	
Designation	W	H	L	R	χ	AM5040	AP2220	AP2240	AP5020	AP5030	AN1015	
SA35-2001L-S1-12*	.079	.295	1.378	.004	12°	100911						
SA35-2001R-S1-12*	.079	.295	1.378	.004	12°	100913						
SA35-2002L-M1	.079	.295	1.378	.008	6°				101048			
SA35-2002N-F1	.079	.295	1.378	.008	0°		87886		87279			
SA35-2002N-M1	.079	.295	1.378	.008	0°				91753			
SA35-2002N-S1	.079	.295	1.378	.008	0°	97832		109418	96158			
SA35-2002N-T1	.079	.295	1.378	.008	0°		87888		87277			
SA35-2002R-M1	.079	.295	1.378	.008	6°				101050			
SA35-3002L-S1-12*	.118	.295	1.378	.008	12°	100923						
SA35-3002R-S1-12*	.118	.295	1.378	.008	12°	100925						
SA35-3003L-M1	.118	.295	1.378	.012	6°		90245	104420	90249			
SA35-3003L-S1	.118	.295	1.378	.012	6°				101054			
SA35-3003L-T1	.118	.295	1.378	.012	6°		90253		90257			
SA35-3003N-M1	.118	.295	1.378	.012	0°	97428	87890	104408	87283			
SA35-3003N-S1	.118	.295	1.378	.012	0°	97004		104410	91763	96432		
SA35-3003N-T1	.118	.295	1.378	.012	0°		87892	104412	87281			
SA35-3003R-M1	.118	.295	1.378	.012	6°		90243	104418	90247			
SA35-3003R-S1	.118	.295	1.378	.012	6°				101052			
SA35-3003R-T1	.118	.295	1.378	.012	6°		90251		90255			
SA35-4004N-M1	.157	.295	1.378	.016	0°		92078	108741	92076			
SA35-4004N-S1	.157	.295	1.378	.016	0°	97990						
SA35-4004N-T1	.157	.295	1.378	.016	0°				100934			
SA35-6006N-M1	.236	.295	1.378	.024	0°				96992			
SA35-2000L-ALU-15*	.079	.295	1.378	.000	15°						105695	
SA35-2000R-ALU-15*	.079	.295	1.378	.000	15°						105697	
SA35-2001L-ALU-15*	.079	.295	1.378	.004	15°						102200	
SA35-2001R-ALU-15*	.079	.295	1.378	.004	15°						102202	
SA35-2002N-ALU*	.079	.295	1.378	.008	0°						102108	
SA35-3002L-ALU-6*	.118	.295	1.378	.008	6°						501188	
SA35-3002R-ALU-6*	.118	.295	1.378	.008	6°						501189	
SA35-3002L-ALU-15*	.118	.295	1.378	.008	15°						98128	
SA35-3002R-ALU-15*	.118	.295	1.378	.008	15°						98126	
SA35-3003N-ALU*	.118	.295	1.378	.012	0°						94835	
SA35-4004N-ALU*	.157	.295	1.378	.016	0°						102106	
Remark: When using left or right handed inserts the holder may need modification.						● Main application	P	○	●	●	●	
* Ground version						○ Secondary application	M	●	○	○	○	
							K		●	●		○
							N			○		●
							S			○		○
							H					

SA35/SA40



EDP									
coated									uncoated
Designation	W	H	L	R	AM5040	AP2220	AP5020	AP5030	AN1015
SA35-8008N-M1	.315	.315	1.378	.031			96981		
SA40-10008N-M1	.394	.335	1.575	.031			96994		

- Main application
- Secondary application

P	●	
M	○	
K		
N	○	
S	○	
H		

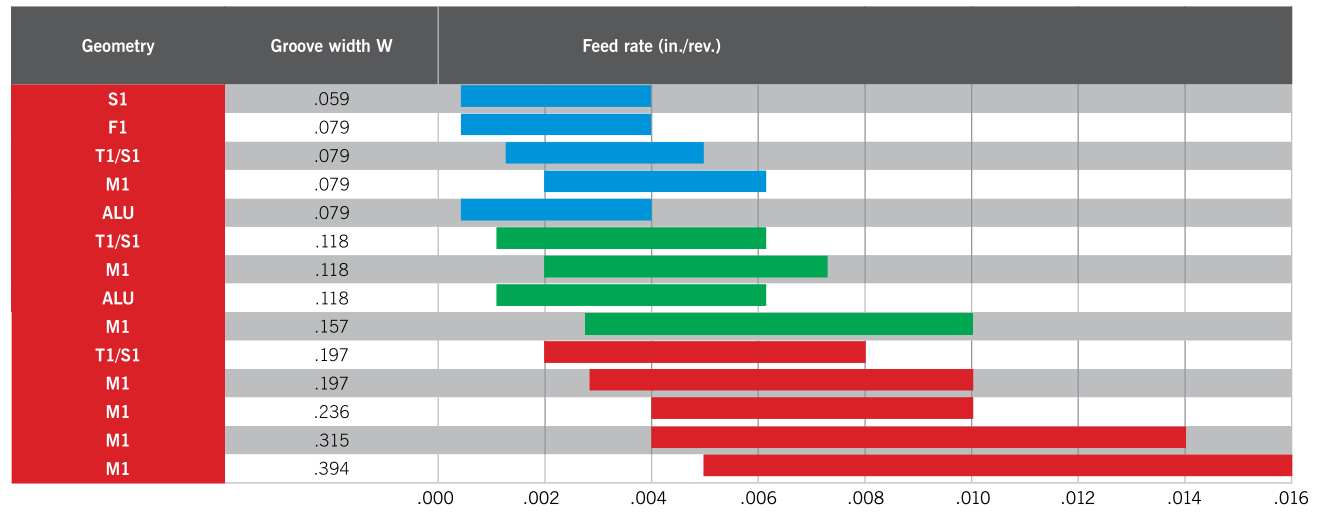
Item	EDP
Screw	
AS 0022	62489
AS 0045	91590
AS 0084	106529
DIN912 M5X16-12,9	92150
DIN912 M6X20-12,9	92152
SA5T	22572
Key	
KP 3111	19648
KP 1321	19647
KP 5421	19650
KS 8000	68824
S-KSA	97826
T5215-IP	96113
T5220-IP	91592

Cut-off

ISO	Material		Tensile strength (N/mm²)	Cutting speed V _c (f/min)					uncoated AN1015
				AM5040	AP2220	AP2240	AP5020	AP5030	
P	Unalloyed steel and cast steel	< 0.15 % C/hardened and tempered	350	390 – 660	430 – 820	430 – 820	390 – 720	390 – 660	–
		0.15–0.45 % C/hardened and tempered	650	260 – 490	360 – 590	360 – 620	260 – 490	260 – 490	–
		> 0.45 % C/hardened and tempered	1000	200 – 460	230 – 490	230 – 560	200 – 460	200 – 460	–
	Low alloyed steel and cast steel	annealed	600	260 – 520	390 – 620	390 – 660	260 – 560	260 – 560	–
		hardened and tempered	900	200 – 430	360 – 490	360 – 590	200 – 430	200 – 430	–
			1200	200 – 390	230 – 430	230 – 490	200 – 390	200 – 390	–
	High alloyed steel	annealed	700	260 – 460	300 – 460	300 – 560	260 – 460	260 – 460	–
	High alloyed tool steel and cast steel	hardened	1100	160 – 390	230 – 430	230 – 520	160 – 390	160 – 390	–
	Stainless steel	ferritic, annealed	700	200 – 520	360 – 660	390 – 660	200 – 560	200 – 560	–
Cast steel	martensitic, hardened and tempered	1000	160 – 330	200 – 430	200 – 330	160 – 330	160 – 330	–	
M	Stainless steel	ferritic/martensitic, annealed	450–600	200 – 520	330 – 660	330 – 560	200 – 590	200 – 560	–
		martensitic/austenitic, heat treated	600–900	160 – 300	390 – 490	200 – 300	160 – 300	160 – 300	–
K	Cast iron	pearlitic/ferritic	500–700	–	330 – 520	330 – 660	–	–	390 – 520
		pearlitic/martensitic	700–850	–	360 – 590	300 – 590	–	–	330 – 490
			800–1100	–	430 – 660	260 – 490	–	–	300 – 460
	Cast iron with nodular graphite	ferritic	550	–	330 – 520	330 – 520	–	–	430 – 560
		pearlitic	800	–	390 – 720	230 – 460	–	–	300 – 430
	Malleable cast iron	ferritic	450	–	300 – 590	330 – 660	–	–	460 – 660
pearlitic		750	–	–	260 – 490	–	–	390 – 520	
N	Aluminum alloys long chipping	not heat treatable	200	–	–	–	330 – 1640	–	980 – 1640
		heat treatable, heat treated	350	–	–	–	330 – 980	–	660 – 980
	Casted aluminum alloys	≤ 12 % Si, heat treated	250	–	–	–	330 – 1640	–	330 – 1640
		≤ 12 % Si, heat treatable, heat treated	300	–	–	–	330 – 980	–	330 – 980
		≤ 12 % Si, not heat treatable	450	–	–	–	330 – 660	–	330 – 660
	Copper and copper alloys (Brass/Bronze)	Lead alloys, Pb > 1 %	400	–	–	–	330 – 1640	–	820 – 1640
		Brass, Bronze	300	–	–	–	330 – 1640	–	660 – 1640
		Aluminum bronze	500	–	–	–	330 – 980	–	490 – 980
		Copper and electrolyte copper	200	–	–	–	330 – 980	–	490 – 980
	Non-ferrous materials	Duroplastic	–	–	–	–	260 – 590	–	260 – 590
Re-inforced plastics		–	–	–	–	200 – 490	–	200 – 490	
Hard rubber		–	–	–	–	330 – 720	–	330 – 660	
S	High temperature resistant alloys	Fe-alloyed, annealed	700	–	–	–	70 – 160	–	100 – 150
		Fe-alloyed, heat treated	950	–	–	–	70 – 130	–	70 – 110
		Ni- or Co-alloyed, annealed	800	–	–	–	50 – 80	–	50 – 80
		Ni- or Co-alloyed, casting	1100	–	–	–	30 – 70	–	30 – 70
		Ni- or Co-alloyed, heat treated	1200	–	–	–	30 – 70	–	30 – 70
	Titanium alloys	Pure titanium	500–700	–	–	–	160 – 390	–	200 – 390
Alpha- and Beta-alloys	heat treated	700–1000	–	–	–	100 – 160	–	100 – 160	
H	Hardened steel	hardened	55 HRC	–	–	–	–	–	–
			60 HRC	–	–	–	–	–	–
	Hard cast iron	casting	41 HRC	–	–	–	–	–	–
	Hardened cast iron	hardened	55 HRC	–	–	–	–	–	–

Recommended cutting data are approximate starting parameters, they may need adjustment for individual machining applications.

Application recommendations



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